

BUSINESS WEEK



Arizona: What the desert has for industry (page 114)

A MCGRAW-HILL PUBLICATION

JUNE 23, 1956

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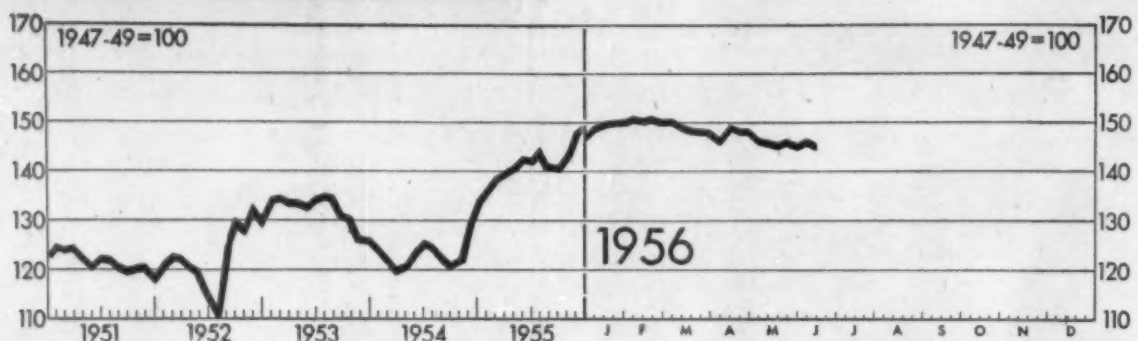
| | Page |
|-----------------------|------|
| BUSINESS OUTLOOK | 19 |
| WASHINGTON OUTLOOK | 39 |
| INTERNATIONAL OUTLOOK | 149 |
| PERSONAL BUSINESS | 169 |
| THE TREND | 188 |
| FIGURES OF THE WEEK | 2 |
| CHARTS OF THE WEEK | 68 |
| READERS REPORT | 5 |

| | |
|---|----|
| MONEY MANAGERS LOOSEN UP CREDIT. The Fed has quietly let member bank reserves increase when demand for loans was below expectations..... | 23 |
| ATOMIC SHARING. U.S., Britain will pool data on military powerplants.... | 24 |
| AUTO SQUEEZE MAKES HOT POLITICS. Detroit unemployment heading up, brews near-crisis in pivotal state—in this election year..... | 25 |
| WHY COAL MEN THREATEN TO SAIL THEIR OWN SHIPS. Fear that freight rates will spoil the export market is behind industry-railroad-union move.. | 26 |
| HOME SEWING CONTEST FIRES UP A HOT MARKET. Sewing machine makers are doing a land-office business..... | 28 |
| REBIRTH OF DEBT REDUCTION. Treasury closing fiscal year with \$2-billion cut, the first in eight years..... | 31 |
| AIRPOWER DOLLARS. Senate committee increases Air Force budget by \$900-million | 32 |
| COMPETITION FOR THE JEEP. GMC is getting into four-wheel drive with a new line of light trucks..... | 34 |
| IN BUSINESS. News about SEC and variable annuities, Rohm & Haas sale, Dow Chemical's plans, Ohio Turnpike's cut in truck tolls..... | 36 |

THE DEPARTMENTS

| | | |
|------------------|--|-----|
| BUSINESS ABROAD: | France: Down But Not Out. Government planners see strong 10-year growth for the economy. Loss of all North Africa may even help this comeback..... | 137 |
| | Power for Western Europe. Development of energy will cost billions..... | 145 |
| ECONOMICS: | When a Boom Peaks Out. . . Here's how a Maryland professor advises on policy to keep the economy growing—and stable..... | 133 |
| FINANCE: | Its Age is Beginning to Show. The bears glimpse flaws in a bull market that is already the oldest and biggest..... | 108 |
| GOVERNMENT: | In Washington. News about new merger law, lobbying probe, Pentagon black list | 153 |
| INDUSTRIES: | Judgment Day for Appliances. More makers fall by the wayside, just as happened in the auto industry..... | 173 |
| | Labor Disputes: Big Year In Court. A lot of labor-management cases reached the Supreme Court—and important cases will come up next fall..... | 155 |
| LABOR: | Joint Bargaining Bogs Down. Steelworkers reject offer..... | 158 |
| | Armistice Near. Meany hopes to end war between craft and industrial unions.... | 160 |
| MANAGEMENT: | Is This the Coming Thing? What's behind the "polyglot" companies..... | 61 |
| | Cheerful But Not Exuberant. That's the tone of consumer confidence as reported by the University of Michigan's Survey Research Center..... | 92 |
| MARKETING: | TV Networks Take the Stand. CBS, NBC, and ABC defend themselves against charges of monopoly in the television industry..... | 104 |
| THE MARKETS: | Preferreds: Gaining Now. They're getting a rush of interest..... | 165 |
| | Wall St. Talks..... | 166 |
| PRODUCTION: | How Far Can Aerosols Go? They are growing fast..... | 177 |
| | New Products | 184 |
| REGIONS: | Arizona Hitches Its Future to Ideas and Industry. The desert state is growing and changing, thanks partly to electronics..... | 114 |
| RESEARCH: | Researchers Come Down to Earth. Europe's scientists, long concentrated on basic studies, show signs of shifting to U.S.-type applied work..... | 45 |
| | On the Trail of a Virus as Villain in Cancer. The hunt is getting hotter..... | 54 |
| TOP JOBS: | They're Masters of Buying by the Billion. How two generals run the Air Force's \$16-billion-a-year buying operation..... | 70 |

FIGURES OF THE WEEK



BUSINESS WEEK INDEX (chart) 1946 Average 91.6 Year Ago 142.6 Month Ago 145.7 Week Ago †146.7 ‡Latest Week *145.7

PRODUCTION

| | | | | | |
|--|----------|----------|----------|----------|----------|
| Steel ingot (thous. of tons)..... | 1,281 | 2,292 | 2,396 | 12,299 | 2,353 |
| Automobiles and trucks..... | 62,880 | 178,475 | 141,069 | †139,255 | 135,994 |
| Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.)..... | \$17,083 | \$62,714 | \$64,883 | \$71,086 | \$76,880 |
| Electric power (millions of kilowatt-hours)..... | 4,238 | 9,987 | 10,875 | 10,951 | 11,425 |
| Crude oil and condensate (daily av., thous. of bbls.)..... | 4,751 | 6,626 | 7,071 | 6,998 | 7,066 |
| Bituminous coal (daily av., thous. of tons)..... | 1,745 | 1,532 | 1,670 | †1,585 | 1,624 |
| Paperboard (tons)..... | 167,269 | 285,547 | 285,921 | 290,477 | 289,328 |

TRADE

| | | | | | |
|--|------|-----|------|-----|-----|
| Carloadings: miscellaneous and L.C.I. (daily av., thous. of cars)..... | 82 | 75 | 73 | 73 | 74 |
| Carloadings: all others (daily av., thous. of cars)..... | 53 | 56 | 57 | 57 | 57 |
| Department store sales (change from same wk of preceding year)..... | +30% | +3% | +19% | +7% | +9% |
| Business failures (Dun & Bradstreet, number)..... | 22 | 214 | 279 | 257 | 286 |

PRICES

| | | | | | |
|---|----------|---------|---------|---------|---------|
| Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100)..... | 311.9 | 410.9 | 419.6 | 415.2 | 413.8 |
| Industrial raw materials, daily index (BLS, 1947-49 = 100)..... | ††73.2 | 92.7 | 96.3 | 93.7 | 93.8 |
| Foodstuffs, daily index (BLS, 1947-49 = 100)..... | ††75.4 | 88.0 | 82.9 | 81.8 | 80.8 |
| Print cloth (spot and nearby, yd.)..... | 17.5¢ | 18.9¢ | 19.2¢ | 19.0¢ | 18.9¢ |
| Finished steel, index (BLS, 1947-49 = 100)..... | ††76.4 | 144.8 | 158.1 | 158.2 | 158.2 |
| Scrap steel composite (Iron Age, ton)..... | \$20.27 | \$35.33 | \$49.67 | \$44.83 | \$44.83 |
| Copper (electrolytic, delivered price, E & MJ, lb.)..... | 14.04¢ | 36.00¢ | 45.89¢ | 45.01¢ | 45.27¢ |
| Wheat (No. 2, hard and dark hard winter, Kansas City, bu.)..... | \$1.97 | \$2.29 | \$2.30 | \$2.19 | \$2.09 |
| Cotton, daily price (middling, 14 designated markets, lb.)..... | **30.56¢ | 33.98¢ | 35.42¢ | 35.53¢ | 35.48¢ |
| Wool tops (Boston, lb.)..... | \$1.51 | \$1.84 | \$1.72 | \$1.78 | \$1.77 |

FINANCE

| | | | | | |
|--|-------|-------|-------|-------|-------|
| 90 stocks, price index (Standard & Poor's)..... | 135.7 | 319.7 | 364.1 | 364.7 | 367.6 |
| Medium grade corporate bond yield (Baa issues, Moody's)..... | 3.05% | 3.51% | 3.73% | 3.75% | 3.75% |
| Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate)..... | ¾-1% | 2% | 3¼% | 3¾% | 3¾% |

BANKING (Millions of Dollars)

| | | | | | |
|--|----------|--------|--------|--------|--------|
| Demand deposits adjusted, reporting member banks..... | ††45,820 | 57,726 | 54,999 | 55,641 | 56,974 |
| Total loans and investments, reporting member banks..... | ††71,916 | 85,009 | 85,241 | 84,726 | 85,236 |
| Commercial and agricultural loans, reporting member banks..... | ††9,299 | 23,355 | 28,203 | 27,971 | 28,258 |
| U. S. gov't guaranteed obligations held, reporting member banks..... | ††49,879 | 32,842 | 27,082 | 26,719 | 26,745 |
| Total federal reserve credit outstanding..... | 23,888 | 24,956 | 25,298 | 25,320 | 25,251 |

MONTHLY FIGURES OF THE WEEK

| MONTHLY FIGURES OF THE WEEK | | 1946 Average | Year Ago | Month Ago | Latest Month |
|--------------------------------|-------|-----------------|-------------|--------------|-----------------|
| Bank debits (in millions)..... | May | ††\$85,577 | \$167,714 | \$176,760 | \$185,584 |
| Imports (in millions)..... | April | \$412 | \$870 | \$1.101 | \$990 |

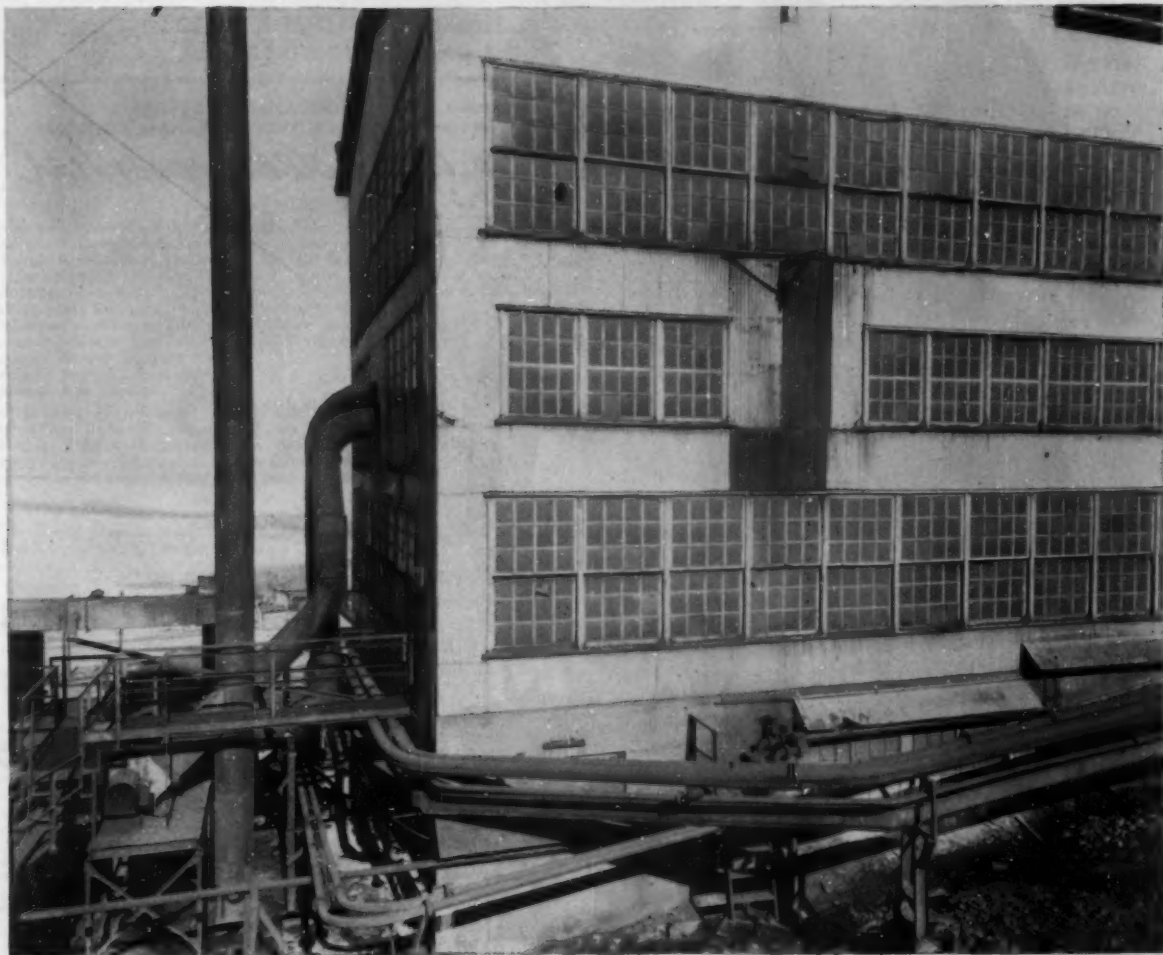
* Preliminary, week ended June 16, 1956.
† Revised.

†† Estimate.
** Ten designated markets.

‡ Date for 'Latest Week' on each series on request.

THE PICTURES—Banyas-Kaufman—54; Black Star—137 (bot. rt.); Grant Compton—Cover, 28, 29, 30, 71, 72, 78 (top), 114, 115, 116, 117, 177, 179; General Motors Corp.—34; I.N.P.—32, 158; Herb Kratovil—45, 46, 48, 70, 77, 78 (bot.); Margenthaler Linotype Co.—184; Standard Oil Co.—137 (bot. ft.); W.W.—104, 137 (top ft.); Dick Walters—27.

B.F. Goodrich



Rubber artery with a pounding pulse

A typical example of B. F. Goodrich improvement in rubber

SHOOTING through that long pipe-line is hot, roasted molybdenum on its way to cooling tanks. It used to travel through iron pipes. But the lime in the mixture would stick to the metal, build up thick deposits, slow down the flow to a trickle. The plugged pipe had to be replaced at least once a year, sometimes more often.

When a B. F. Goodrich man heard of the problem, he suggested that rubber hose take the place of the troublesome pipe. He had in mind a B. F. Goodrich hose, made with a special rubber lining that resists acids and a

tough rubber-and-fabric body to stand the pumping pressure. What's more, he knew this B. F. Goodrich hose would be flexible enough to expand and contract with the pump pressure, like a pulse beat in an artery, and so break off lime deposits as fast as they would form.

This B. F. Goodrich hose was tried, and worked perfectly. No reduction in flow whatsoever. In use almost continuously 24-hours-a-day, 7 days a week, the hose has outlasted pipe 10 to 1. There are even some lengths on this job after 15 years service!

Improvements are constantly being

made in all kinds of B. F. Goodrich hose to make them last longer, stand more abuse, handle easier, and cost less. Your B. F. Goodrich distributor is an expert at solving hose problems. Call him when you need help, or write B. F. Goodrich Industrial Products Co., Dept. M-663, Akron 18, Ohio.

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The big news in baby fashions: fancy pants that are not only good to look at, but practical to wear as well. What happened when this feature story appeared in a recent issue of PARADE?

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READERS REPORT

Coffee Price Justified

Dear Sir:

Since BUSINESS WEEK reported that the U.S. Dept. of Agriculture had "branded recent price rises [in coffee] as not justified" [BW—Jun.2'56,p143] we feel your readers should know the reaction of the coffee industry. John F. McKiernan, president of the National Coffee Assn., has wired the Secy. of Agriculture as follows, in part:

"... It is the feeling of this Association that . . . FAS has gone well beyond the reporting of its estimates and has expressed opinions which, in fact, have had the effect of causing press reaction adverse to the U. S. coffee industry. Such press reaction, by indirection, leads to questioning of the industry's motives. In truth, many of this Association's members, who have access to information from producing countries as well as data on increased European demand for coffee, will attest that there is nothing "artificial" about the limited supply of mild (fine quality) coffees at this time . . .

"In view of the facts 1) that this Association has carried on a long and constant campaign for improved crop statistics from our government; and 2) that the information of many of our members in regard to the limited supply of mild coffees is at sharp variance with FAS estimates . . . we respectfully request that future FAS coffee crop reports confine themselves to statistical material. Anything beyond this can be misleading to U.S. consumers and thus injurious to the industry, both here and abroad, as well as to the public itself . . ."

JOSEPH F. DRURY, JR.

PUBLIC RELATIONS DIRECTOR
 NATIONAL COFFEE ASSN.
 NEW YORK, N. Y.

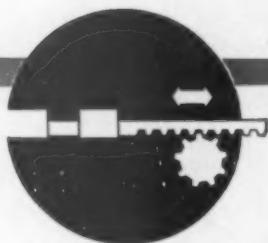
Overseeing the Market

Dear Sir:

In your article Overseeing the Biggest Market [BW—May26'56; p69] you state that the Securities and Exchange Commission supports "in principle" the Bennett Bill to amend the Securities Act of 1933 (page 83). This is erroneous.

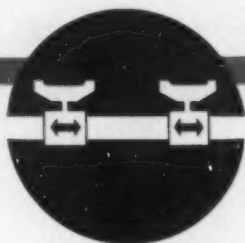
The first of two bills introduced by Representative John B. Bennett (Michigan) would have repealed a provision of the Securities Act which provides a conditional exemption from registration for public offerings of securities not ex-

Flexible Automation



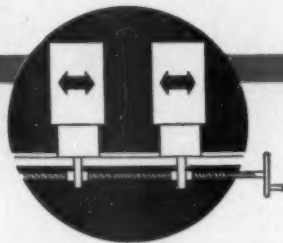
Variable Length of Feed Stroke

Changing from one job to the next is a simple matter in Transflex. Feed stroke is readily adjusted so that the part may be indexed any distance required by the number and size of the dies used.



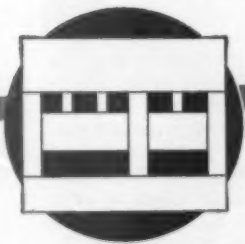
Adjustable Feed Fingers

Simple adjustments are provided so that the feed fingers can be quickly respaced along the feed bar to accommodate varying feed lengths. Fingers may be easily changed to grip parts of different dimensions.



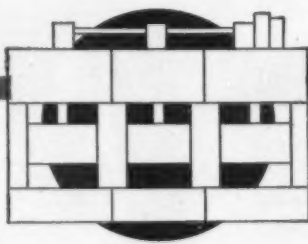
Adjustable Cushion Positions

Die cushions in a Transflex press are mounted on a track within the press bed. No matter where you want blankholding pressure, Transflex cushions can be moved laterally to that position by an adjustment mechanism outside the bed.



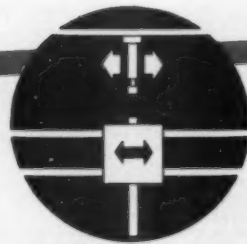
Multiple Slides

When a series of transfer operations presents extremely unbalanced load conditions, Clearing provides multiple slide construction. Two or more slides with completely different capacities are operated in a single press.



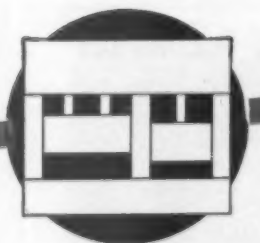
Modular Construction

An entirely new concept of press design and construction, modular press units provide the manufacturer with a means to alter the physical characteristics of the presses. A manufacturer can now have insurance against long range obsolescence of equipment. Modular construction provides a means to add or subtract crowns, beds, slides and uprights—to create a composite press tailored to the manufacturer's general requirements.



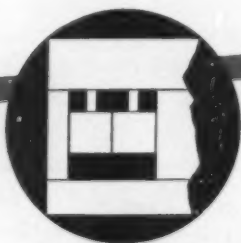
Adjustable Knockout Positions

Transflex presses are furnished with adjustable knockout positions. Air cylinders prevent the slide from picking up the part on the upstroke. Positive mechanical knockout is also provided in the event a part becomes so firmly seated in the dies that the cylinder remains compressed. Both cylinders and rods are adjustable left and right.



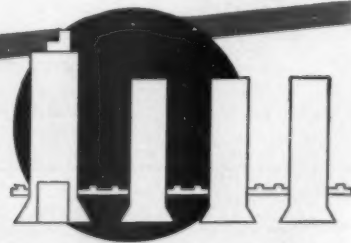
Skip Stroke

When two parts, which are similar except for one key operation, are to be produced simultaneously, Clearing offers a unique skip stroke action. One slide in a multiple slide press will skip every other stroke to allow the transfer mechanism to index twice. In this way a pair of parts are produced at every second stroke of the press.



Split Slides

Clearing presses with split slides offer the manufacturers a means to obtain balanced production of pairs of parts where both parts are produced on the same press. Instantaneous die changing is possible by adjusting one slide up and the other one down. Split slide construction eliminates any effects of unequal loading of the slides.



Lead Press

A manufacturer wishing to automate a line of existing presses may purchase a Clearing lead press equipped with a fully adjustable Transflex feed mechanism. The feed is constructed in incremental units so that the press line can be modified—presses added or subtracted—at any time.

the new CLEARING transflex press



Transfer Feed Efficiency + Flexibility

Here at last is automation *plus* flexibility. The new Clearing Transflex makes it possible to take full advantage of transfer feed operation on a variety of work—to change over from one job to another with a minimum of effort. Stampings manufacturers have, in the past, looked on special purpose transfer feed presses as potential white elephants

due to their highly specialized function. These manufacturers will find in Transflex, an automated press designed to keep pace with design and model changes. Transflex is, in fact, so versatile that *contract stamping shops*, with their requirements for variegated production, are now taking advantage of the economies offered by Transflex operation.

CLEARING PRESSES

THE WAY TO EFFICIENT MASS PRODUCTION

CLEARING MACHINE CORPORATION • Division of U.S. Industries, Inc.

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Alpha E. Bestman

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Even a hurricane can't damage this giant traveling stacker with its 235-foot cable-suspended belt conveyor boom. It was designed and constructed by Hewitt-Robins for Coronet Phosphate Company, Division of Smith Douglass Company, Inc., in Florida to withstand more than maximum hurricane velocity winds. This rugged unit

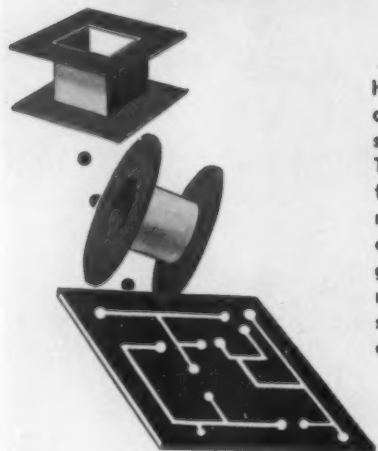
which handles phosphate at 300 tons per hour is another example of Hewitt-Robins' ability to solve unusual bulk materials handling problems for industry. To obtain complete information about Hewitt-Robins products and services, see your classified telephone directory or write directly to our office in Stamford, Connecticut.



HEWITT-ROBINS

ENGINEERING AND ERECTION OF BULK MATERIALS HANDLING SYSTEMS • "JONES" POWER TRANSMISSION EQUIPMENT

HOW: RIEGEL PAPERS HELP : HI-FI AND : PIZZA PIE



Hidden in the heart of high-performance electronic devices are many small parts made with Riegel papers. The "glue-lines" in printed circuits, for instance, are a special Riegel resin-impregnated paper. Coil forms, connector strips, insulating washers galore use special plastic-impregnated Riegel papers to give greater strength, stability, moisture resistance and dielectric strength.

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ceeding \$300,000 in amount—a measure designed to facilitate small business financings. This bill (H.R. 5701) was opposed by the Commission. The second Bennett Bill (H.R. 9319), to which your article no doubt refers, would in effect convert the offering circular used in exempt offerings to a document very similar to the prospectus used in full registration, but subjecting exempt offerings to the same liabilities for misstatements and omissions therein as now apply to registration statements. This bill has been reported favorably by a Subcommittee of the House Interstate and Foreign Commerce Committee. The Commission, however, also opposed this bill because it would subject the offering circular used in exempt offerings to precisely the same standards and liabilities applicable to registered offerings, thus, in effect, creating a situation tantamount to repeal of the statutory exemption. As an alternative, the Commission proposed an amendment, introduced by Representative Arthur G. Klein (New York) on May 17, 1956 (H.R. 11308), designed to achieve the desirable objectives of the second Bennett Bill affording additional remedies to investors where securities are sold on the basis of false and misleading statements—while preserving the statutory exemption for small issues.

There may be some confusion also in the same paragraph of your article wherein you state that the Bennett Bill and the Fulbright Bill both "are designed to make companies with shares traded over-the-counter register with the SEC in the same way as companies listed on national exchanges." The Fulbright bill does require the larger over-the-counter companies to register with the Commission and comply with its rules with respect to financial reporting, proxy solicitations, and insider trading—as is required of listed companies. The Commission endorsed this bill, except for the provision permitting recovery of short-term trading profits by insiders, as to which it recommended a further study. Neither of the Bennett bills, however, is comparable to the Fulbright Bill. The first Bennett Bill, by repeal of the small-issue exemption, would require registration with the Commission of all securities offered for public sale, regardless of the amount of the offering. The second, as indicated above, would impose additional civil liabilities in respect of exempt offerings of small issues.



THE JUGGLER IN THE GRAY FLANNEL SUIT

Are you doing a controlled performance like this? You *must be* if you're a sales manager! The 3 balls represent "The 3 Threes of Sales Control:"

To increase profitable sales by obtaining new customers, awakening dormant accounts to action and by increasing business from active customers.

By exercising control over sales activity by salesmen in territory, by prospect and by customer.

By measuring sales performance by accumulated sales versus year quota, by accumulated sales versus accumulated quota and by the loss or gain in total sales.

Every sales manager has to face up to controlling these — to keeping them well in hand!

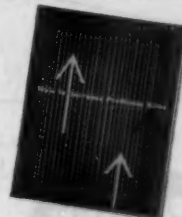
Would you like to check on how your sales control program rates? Here's a simple test.

Does your present system give you the answers to *all* six of the following at a glance:

- 1) Customers and prospects in each salesman's territory?
- 2) Date of last call and of last sale on each account?
- 3) Lines selling well and those showing weakness?
- 4) Approximate total annual requirements of each account?
- 5) Percentage of these total requirements you've supplied to date?
- 6) Percentage of the year's quota each salesman has sold to each account?

If you don't have these answers, and others, constantly available in complete, effective, graphic form, send today for the details of Kardex Visible Sales Control. Learn how simply and easily hundreds of accounts can be reviewed, in minutes, with Kardex.

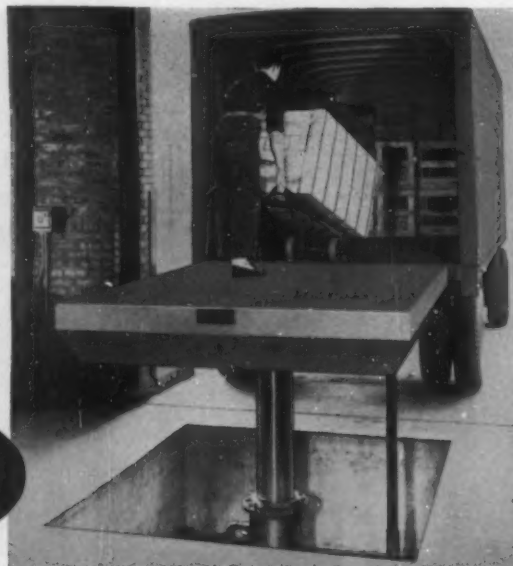
Write Remington Rand, Room 1606, 315 Fourth Avenue, New York 10. Ask for KD524 — "How To Increase Profitable Sales."



Remington Rand
DIVISION OF SPERRY RAND CORPORATION



1,000
TO 100,000 LB.
CAPACITIES



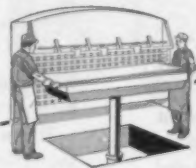
Rotary Levelator Lifts handle heavy loads faster and cheaper

Adaptable to many uses—Economical Rotary Levelator Lifts permit loading and unloading trucks and freight cars direct from plant floor level. Expensive loading docks and ramps are eliminated . . . buildings may be erected on grade at big savings in construction costs. Levelator Lifts also solve the problem of moving materials from one floor level to another and can be used in other ways to speed plant traffic and cut labor costs. When lowered, the lift is level

with the plant floor and can be trucked over. Installation is easy, and there's no maintenance problem.

Economical to operate—Rotary Levelator Lifts operate on dependable, low-cost Oildraulic (oil hydraulic) power, using compressed air or electric power unit. A standard model will handle 12,000-lb. loads. Others are built to requirements for lifts of 1,000 to 100,000 lbs. Mail coupon for literature or write our Industrial Division, describing your lifting problem.

Machine Feeding—Levelator Lifts handle loads faster and cheaper than men or makeshift methods and keep materials at the right height for continuous feeding.



**MAIL NOW FOR
COMPLETE DATA**

Rotary Lift Co.,
1146 Kentucky, Memphis 2, Tenn.
Please send literature on Rotary Levelator Lifts.

Name _____ Company _____

Address _____

City _____ State _____



LEVELATOR® LIFTS

Another inadvertent error appears at page 72, where you state that the "NASD has established set rules to prevent malpractices," including the "well known 'statement of policy'." This statement of policy, which proscribes various types of false and misleading statements in the sale of investment company securities, was a pronouncement by the Commission, not the NASD. The latter, however, as a measure of self regulation, helps administer the statement of policy insofar as it may affect the selling practices of NASD members, by reviewing material prepared for use in the sale of investment company shares and calling for the correction of material which offends the provisions and objectives of the statement.

ANDREW DOWNEY ORRICK

COMMISSIONER
SECURITIES & EXCHANGE
COMMISSION
WASHINGTON, D. C.

A Tough Test

Dear Sir:

. . . This is to call your attention to an apparent error in the article **A Tough First Test for SUB** [BW—Jun.2'56,p54] in the columnar graph on page 55 wherein Texas is listed in the category of states permitting SUB to be integrated with States Unemployment Compensation benefit payments. We know of no formal ruling or opinion to that effect as of now.

In the body of the article on page 58 is listed those states where rulings permitting integration have been issued. Texas is *excluded* from this listing which is an indication contradictory to the chart.

There appears to be a similar discrepancy between the chart and the article in the case of Indiana.

VICTOR F. GRIMA
DIRECTOR OF INDUSTRIAL RELATIONS
TEXAS MANUFACTURERS ASSN.
HOUSTON, TEX.

• Reader Grima is correct. As between the chart on page 55 and the paragraph on page 58, the chart is wrong and the paragraph is correct.

Army's Special Program

Dear Sir:

We have been following your special series of advertisements **A Message to American Industry** [BW—Jun.2'56,p164] with keen interest. The Army has a special Scientific and Professional Personnel Program designed for the utiliza-

THERMOELECTRIC PLANT FACILITIES IN NICARAGUA for Empresa Nacional de Luz y Fuerza, Managua. Ferguson is constructing the powerhouse building, intake channel, discharge tunnel, pump house and associated works. Design by The Kulljian Corporation.

PAPER MILL IN ALABAMA for Gulf States Paper Corporation to produce 300 tons of bleached sulphate pulp daily. A continuous cooking process is one feature contributing to the ultimate in paper mill automation. Design, construction and mechanical installation by Ferguson.



CEMENT MILL IN INDONESIA for Gresik Cement Corporation with initial minimum capacity of 250,000 metric tons per year. This joint venture of Ferguson and Morrison-Knudsen includes design, construction and installation of complete plant and auxiliary facilities.

TITANIUM FABRICATION MILL IN WALES for Imperial Chemical Industries Limited, to produce titanium sheet, bar and wire. H. K. Ferguson Company of Great Britain Limited is associated in the design and will manage construction.

DESIGN AND BUILDING SERVICE

Across the Sea or Across the Street

Building in far-away places is normal procedure for Ferguson. And so is the construction of such diverse facilities as titanium plants, cement mills, power plants and paper mills.

Our wide-world approach and huge fund of design,

construction and installation experience are assurance that your project, across the sea or across the street, will be completed quickly, with minimum expenditure and maximum value.

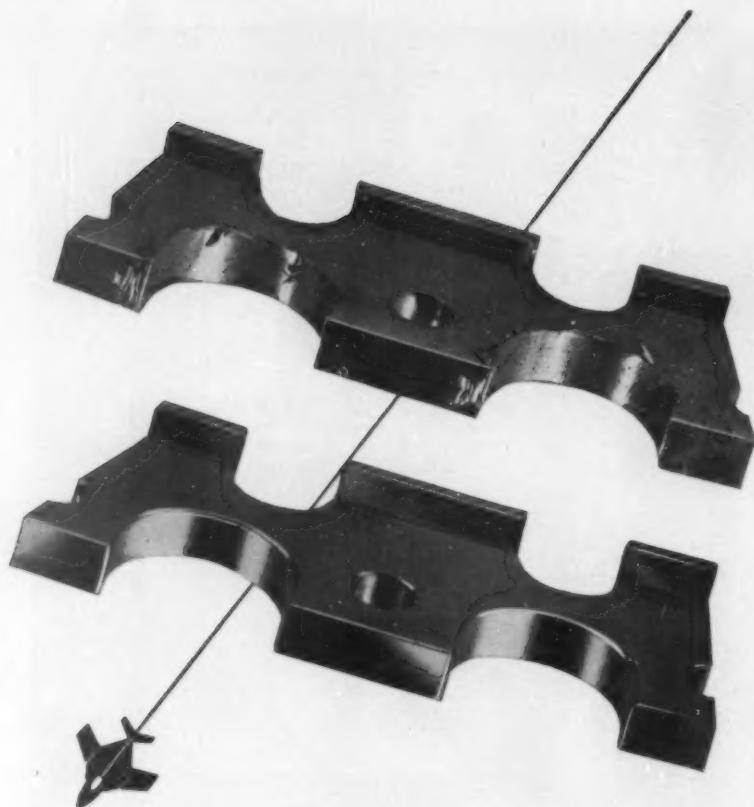
We welcome the chance to show you how.



THE H. K. FERGUSON COMPANY

Subsidiary of Morrison-Knudsen Company, Inc.

Executive Office: Cleveland 14, Ohio. Other Offices: New York • Ft. Lauderdale, Florida • Cincinnati • Chicago • Los Angeles • San Francisco • Atlanta • Toronto • London, England

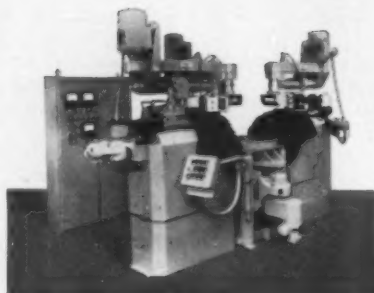


New standard in finishing

EXTREME temperatures and stresses set up in jet engines cause unprecedented strains on metal components.

Fatigue and failure producing concentrations of stress in a ring component—sections shown above—are eliminated by blending surface junctures with Osborn Brushmatic power brushing. Replacing undependable hand methods, power brushing produces the highest quality finish ever achieved. It speeds up production and inspection... eliminates rework.

It will pay you to have an Osborn Brushing Analysis made of your finishing operations. Write *The Osborn Manufacturing Company, Dept. A-67, 5401 Hamilton Ave., Cleveland 14, Ohio.*



Osborn's 51-3L Brushmatic cleans and finishes metallic and non-metallic parts up to 8 feet in diameter, 3500 pounds in weight.

COMPLETE DATA—
For information on power brushes and brushing methods write today for Osborn's Catalog 300.



Osborn Brushes



BRUSHING METHODS • POWER, PAINT AND MAINTENANCE BRUSHES
BRUSHING MACHINES • FOUNDRY MOLDING MACHINES

tion of engineer and scientific personnel . . .

The facts of this program should be of interest to all young men now obtaining or planning to obtain an education in a scientific field and to their future employers . . . This program is little known to the young men for whom it is intended . . .

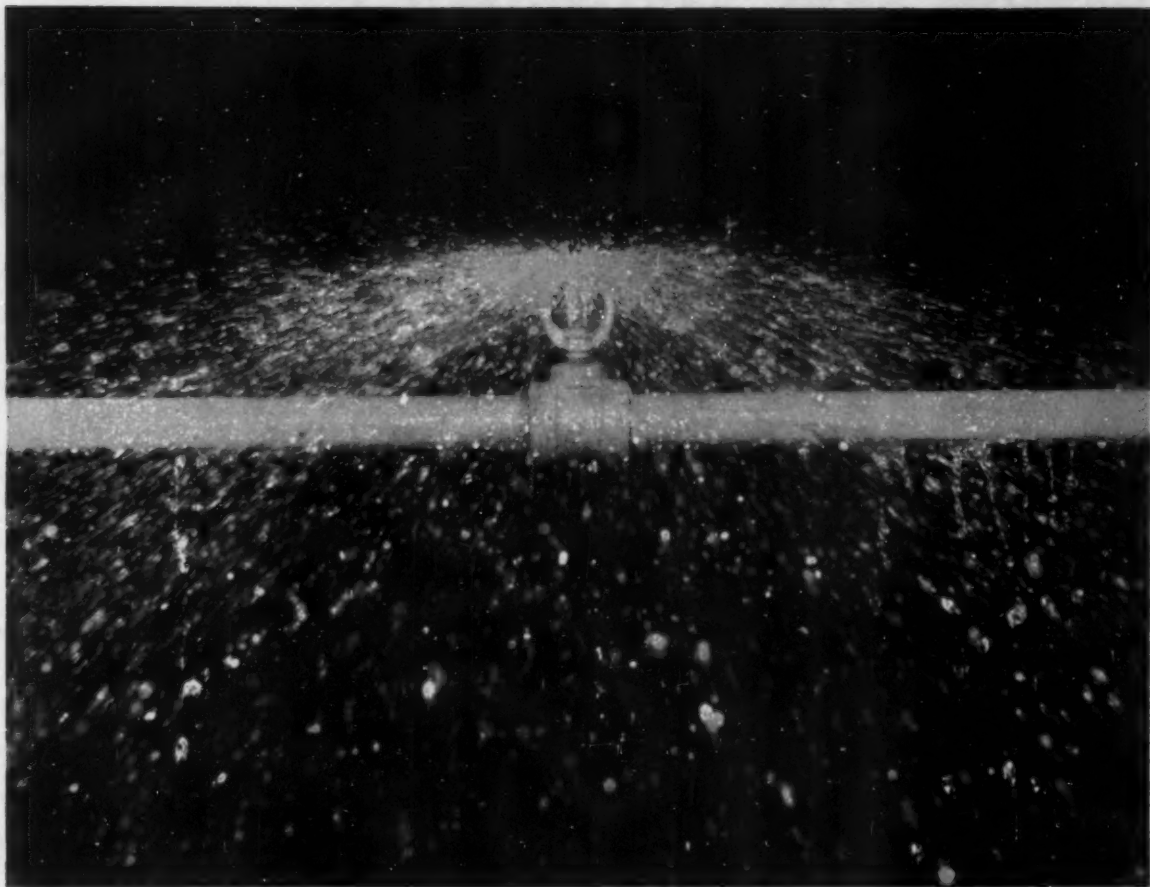
PFC. JOSEPH FAUCHER, Ph.D. '53
PFC. S. ABELES, M.S. '52
PFC. WALT G. HORSTMAN, B.S.C. '50
PVT. KYLE R. BARBEHEM, Ph.D. '55
S.P.3 ROY A. MCBURGER, B.S. '51
PVT. JEROME PERLMUTTER
PFC. A. H. AARONOFF, M.A.
PFC. PHILIP J. LISTON, B.S.
PFC. R. J. ROBINSON, B.S. '52
PVT. HARRY GRAHAM, B.S. '51
PFC. PETER ELLBOTT, M.A. 56
PFC. MANFRED SCHAEFER, B.Ch.E. '49
PFC. FREDERICK A. HEINZE, B.S. '51
PVT. LEONARD RAWIG, B.S.E.E. '53
PVT. D. C. MCCURDIE, B.S.Ch.E. '52
PFC. H. HORCHER, B.S.E.E. '52
PFC. L. H. WEBSTER, B.S.M.E. '52
PVT. W. J. CURRAN, B.S.E.E. '55
PVT. LAMONT E. HILL, B.S.Ch.E. '54
PVT. LARRY S. WEINSTEIN, M.S.E.E. '54
S.P.3 DONALD L. BOND, M.S.Ch.E. '54
PFC. A. B. MEULENERS, B.S.M.E. '51
PFC. D. PERKE, M.S. '51
PFC. HERMAN MELZER, B.S. '52
PFC. J. J. O'CONNELL, A.B. '52

Salesmen Transformed

Dear Sir:

Respect and credit is due engineers who put their engineering minds and skills to work despite comparatively small monetary rewards. It is agreed that management has long been hindsighted in this respect. I have no wish to discredit these "mindful men" but do take exception to Reader Honn's jab at "wonder boy" salesmen [BW—Jun.2'56,p14—Readers Report].

Reader Honn quotes "What could the wonder boy sell if the engineers did not design and produce it?" By the same token, goods designed and produced add only to inventories until and unless they are sold by these so-called "wonder boys." Each



Fire Safety In Action...



You're looking at an "Automatic" SPRAY Sprinkler an instant after fire has triggered it into action. The deluge of water will snuff out a blaze before it has a chance to gain headway. Millions of these ingenious devices provide a 24-hour-a-day fire watch in tens of thousands of industrial, commercial and

institutional buildings throughout the land.

You, too, should let "Automatic" Sprinklers serve as your personal fire department. They will afford you the best practical measure of fire safety with the least effort, expense and interference with your business operation.

"Automatic" Sprinkler

CORPORATION OF AMERICA
YOUNGSTOWN, OHIO

Offices In Principal Cities of North and South America

Complete descriptive literature now available.
For data on "Automatic" Sprinkler systems, write for
Bulletin 66.

For data on SPECIAL HAZARD Fire Protection, write for
Bulletin 73.

THRU-THE-ROOF VENTILATION SAVES SPACE, CUTS COSTS



STYLE "V" SKY-VENT



STYLE "H" SKY-VENT

— AS NEW "BUFFALO" SKY-VENTS EXHAUST FROM LARGE PLANT AREAS

Where you need to ventilate large plant areas without devoting space and expense to a duct system — where you wish an installation that requires no floor or wall space — where you desire freedom to rearrange plant layout without re-working the ventilation system — and where you want a top ventilation job at minimum operating cost — you can't do better than with "Buffalo" Sky-Vent Root Ventilators. These new units are already removing hot air, fumes and fogs from many of the country's largest plants. Rigidly constructed of heavy plate and bracing, these are permanent "package" units with all the "Q" Factor* smoothness and efficiency that typify all "Buffalo" Fans. Write today on your company letterhead for Bulletin FM-1234 and other descriptive material.

STYLE "H" SKY-VENT

Complete unit with fan in stack, shutters, integral flanged curb plate and internally braced heavy-gauge galvanized steel hood.

STYLE "V" SKY-VENT

Extremely heavy-duty with welded steel plate gussets supporting motor and propeller fan. Counterbalanced dampers in cylinder open when fan starts, close when it is stopped. Integral flanged curb plate simplifies installation.

CAPACITIES: 1,000 cfm through 250,000 cfm

SIZES: 12" through 120"

**The "Q" Factor — the built-in Quality which provides trouble-free satisfaction and long life.*



BUFFALO FORGE COMPANY

458 BROADWAY

BUFFALO, NEW YORK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

Sales Representatives in all Principal Cities

INDUSTRIAL EXHAUSTERS

BELTED VENT SETS

PROPELLER FANS

"E" BLOWERS-EXHAUSTERS

has his place and needs the other as does management need both. In this competitive age, if one is to gain stature, salesmen too, need experience and training.

... Certainly Reader Honn is aware that rarely is there a salesman who is a "wonder boy" for very long unless he possesses the s's — stability, stamina, soundness, skillfulness, sharp-wittedness and of course, a well-engineered product.

I'm a proud "wonder boy's" wife.

ANNE M. BURKE

ROCKLAND, MASS.

Dear Sir:

... I would like to take exception to Reader Honn's letter in which he referred to "wonder boy, a salesman by nature."

During the past ten years ... a transformation has taken place in the field of selling. The era of the high pressure, fast talking, back-slapping drummer has passed and he has been replaced by the professional, highly trained sales representative who in most cases is being groomed through executive training programs for management positions ...

The modern sales representative will be the last to discount the contributions made to industry and the field of selling by engineers, without whose inventive genius there would not be merchandise to sell.

... The desire for ever expanding markets developed by professional salesmen has created the demand for engineers to develop the products needed by our society. ...

W. H. KING

FT. WORTH, TEX.

Wrong Board

Dear Sir:

Your article Executive Pay: Up With the Boom [BW—Jun.2'56, p103] erroneously states that David Sarnoff resigned as Chairman of the Board, Radio Corporation of America, on December 7, 1955.

The fact is that on July 1, 1955, the RCA Board of Directors authorized an employment agreement with General Sarnoff providing, among other things, for his services for a period of ten years past his normal retirement date of March 1, 1956 ...

ORRIN E. DUNLAP, JR.

VICE-PRESIDENT

RADIO CORP. OF AMERICA

NEW YORK, N. Y.

• The footnote stating that Mr. Sarnoff had resigned as chairman of the board should have specified chairman of the board of NBC.



The heat was on Sam when his boss got irate
'Cause their shipments were coming too little, too late.



Now everything's fine and Sam's such a success
He ships by dependable RAILWAY EXPRESS!

The big difference is

Whether you're sending or receiving,
whether your shipment is big or small, whether
you're shipping here or abroad—always
specify Railway Express. You'll find it makes
the big difference in speed, economy, and
safe, sure delivery. And now you can
make fast, economical shipments via
Railway Express Agency's new international
air and surface connections. It's the complete
shipping service, free enterprise at its best.



...safe, swift, sure

Railway Express will take your orders for CARE



Texaco Soluble Oil HD is shown here at work helping speed production of parts for Oil-O-Matic Oil Burner at the Eureka Williams Bloomington, Illinois plant.



TEXACO HELPS EUREKA WILLIAMS KEEP PRODUCTION UP, COSTS DOWN...

"Ours is the oldest name in automatic heating," says Eureka Williams Corporation, "and a big factor in maintaining our position in this highly competitive field has always been our ability to keep our production quality up and our costs low."

Eureka Williams manufactures the Oil-O-Matic and Gas-O-Matic Warm Air Furnaces and boilers and Air-O-Matic heating and air conditioning units. Parts for all of them are machined with Texaco Cutting, Grinding and Soluble Oils.



EUREKA WILLIAMS CORPORATION is just one of the many fine firms which have achieved top results with Texaco. There are three good reasons for this wide acceptance: *field-proven* Texaco Lubricants, developed with the aid of the finest research facilities available... *field-experienced* Texaco Lubrication Engineers to advise on their use... and *fast, efficient service* from over 2,000

Texaco Distributing Plants in all 48 States. This combination can help bring production *up*... and costs *down*... in every major field of industry and transportation. One agreement of sale supplies all your plants wherever located.

For details, call the Texaco Distributing Plant nearest you, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

INDUSTRIAL LUBRICANTS



BUSINESS OUTLOOK

BUSINESS WEEK

JUNE 23, 1956



People don't feel quite so flush, quite so optimistic, quite so hopeful about buying new cars or new homes (page 92).

But they aren't pinning crepe to their bankbooks and running for the nearest poorhouse.

This latest survey of consumers' spending plans mirrors more than it forecasts: You've already felt it in the marketplace.

Things aren't so gaudy around the auto salesrooms or the real estate subdivisions as they were last year. Only a delirious optimist had any hope that they would be (BW—Dec.31'55,p9). But they're good by any other standard (haggling over prices aside).

And used-car-lot operators, significantly, are in clover.

Rarely have people with such a future—or such a present, for that matter—been as down-in-the-mouth as the auto makers.

Last year gave them visions of that wonderful 10-million-car year. They scarcely realized that they were pushing installment terms harder than automobiles. And they overproduced.

Now last year's credit buyers have no equity for trade-ins.

Worst of all, the industry is in a fair way to stifling competition through the very intensity of its competition.

Production and employment figures in the auto industry do, indeed, tell a pretty disheartening story (page 25).

After hitting an unnatural peak last November, production of new cars has dived in each succeeding month. May was nearly 35% below a year ago; the first five months ran some 23% behind.

Yet the sales story is much happier. Neither May nor the five months ran much more than 10% under a year ago in actual registrations.

Actually, auto dealers have moved more cars in the last five months than in that period in any other year save 1955.

With output cut way back, such a relatively good sales result has meant that inventories finally are being slashed.

Very nearly 100,000 cars were delivered out of dealers' stocks last month. Automotive News now puts stocks just over 800,000 (and some industry sources estimate them 50,000 lower than that).

Another big cut is taking place this month—with output continuing at May's slack rate. A 650,000 figure is likely for July 1.

That leaves the whole third quarter—including the changeover shut-down—to clear the boards for 1957 models.

And remember: The changeover can take only a few days—or it can be stretched out until dealers are largely cleaned up.

Used cars won't be a drug on the market, come Labor Day, glutting the sales road ahead of the new models. Lot operators are reported "paying more than the book" for used models in the best demand—and still they can't get so many as they would like.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

JUNE 23, 1956

Resale prices are described as "high" and inventories "low."

—•—

Home building seems to have stabilized at a seasonally adjusted 1.1-million annual rate. At least, it's been there for three months.

That's quite a comedown from the rate of nearly 1.4-million starts at the beginning of 1955. But this is hardly unexpected considering the tightness in the money market during recent months.

And it about matches activity in 1951, 1952, and 1953. Those had been mighty satisfactory years until 1955 came along.

New dwelling units started in May are estimated to have numbered 108,000. That's nearly 22% lower than a year ago. Starts for the five months are put at 463,300 for a decline of more than 17%.

However, partly due to work carried over from 1955 and partly to higher costs, the value of new home building isn't off so sharply.

The joint Commerce-Labor Dept. estimate puts value for May \$168-million below 1955, a decline of 12%. The five months were down 7%.

If the year's dip could be limited to 7%, that wouldn't be bad.

—•—

Overproduction—or perhaps fewer new homes to equip—has a good many appliance people on the anxious seat.

Inventories top a year ago all the way from about 2% for refrigerators to 75% for dryers, according to Judson S. Sayre, head of Borg-Warner's Norge division. And Sayre says price cutting won't move the stuff, that prices already have been cut to the bone.

—•—

Despite lags in housing and autos, over-all production in this country held surprisingly high in May.

The Federal Reserve Board's index, on a preliminary basis, is put at 142 for the month. That's down only a point from a revised figure of 143 for April, and just two points under the late-1955 record.

Machinery output, still at or near the very best levels of the boom, is the answer, of course.

—•—

Steel mills last week had the season's first taste of real hot weather. This, along with labor unrest, cut operations to the year's lowest rate. Nevertheless, output remained above 93% of capacity.

Power companies, on the other hand, found the heat resulting in more demand for juice as air conditioners were turned on. Their output jumped to 14% above a year ago, up from recent gains around 12%.

—•—

Labor trouble as a threat to the supply of copper and its products evaporated this week (page 163).

The first break was among the fabricators when Anaconda-controlled American Brass announced the signing of a new contract, followed by Kennecott-controlled Chase Brass.

Phelps-Dodge was the first major producer to reach agreement, but by midweek, Anaconda and American Smelting were ready to sign.

HILTON HOTELS LEAD THE WAY

in air-conditioning

No matter how hot or humid the weather, you'll relax coolly and comfortably the year round in the delightfully air-conditioned bedrooms, suites and public rooms of most Hilton and Statler Hotels. As always, Hilton leads the way in providing up-to-date accommodations for your enjoyment and convenience.



For immediate reservation service at all Hilton and Statler Hotels, contact Out of Town Reservation Service at any hotel in the group or Hilton Reservation Offices listed below.

Hilton Hotels

AROUND THE WORLD

Conrad N. Hilton, President

EXECUTIVE OFFICES • THE CONRAD HILTON • CHICAGO 5, ILL.

EASTERN DIVISION — In New York City: The Waldorf-Astoria, The Plaza, The New Yorker and The Statler • In Washington, D. C.: The Statler • In Boston: The Statler • In Buffalo: The Statler • In Hartford: The Statler. CENTRAL DIVISION — In Chicago: The Conrad Hilton and The Palmer House • In Detroit: The Statler • In Cleveland: The Statler • In Columbus: The Deshler Hilton • In Dayton: The Dayton Biltmore • In St. Louis: The Statler. WESTERN DIVISION — In Beverly Hills: The Beverly Hilton • In Los Angeles: The Statler • In Houston: The Shamrock Hilton • In Dallas: The Statler Hilton • In San Antonio, Fort Worth, El Paso, Texas and Albuquerque, N. M.: Hilton Hotels • In Chihuahua, Mexico: The Palacio Hilton. HILTON HOTELS INTERNATIONAL — In San Juan, P. R.: The Caribe Hilton • In Madrid: The Castellana Hilton • In Istanbul: The Istanbul Hilton. Hotels under construction in: Mexico City and Acapulco, Mexico; Havana, Cuba; Cairo, Egypt; West Berlin, Germany and Montreal, Canada (a C. N. R. Hotel). RESERVATION OFFICES — San Francisco, Russ Bldg. YUkon 6-0576; Toronto, Knight Bldg. EMpire 8-2921; Paris, 3 rue de Stockholm, Laborde 57.50.



**avco
Crosley**

Avco Defense and Industrial Products combine the scientific and engineering skills, and production facilities of three great divisions of Avco Manufacturing Corp.: Crosley; Lycoming; Research and Advanced Development—to produce power plants, electronics, airframe components, and precision parts.

Avco Crosley measures man for tomorrow's machines

There is only one component in a modern machine system which engineers cannot "improve." That is the all-important, "human component"—man, himself.

To adapt changing machines to unchanging human capacities, Experimental Psychologists of Avco's Crosley division are taking a closer look at man—his mind, his body, his reactions. From these patient investigations are emerging ways to make present and future machines simpler, more obedient, more valuable to man.

By measuring man *today*, Avco Crosley "human engineering" helps assure man that he will realize the *full* benefits of the machines he builds *tomorrow*.

To find out how "human engineering" might improve your present or future products—phone, wire, or write to:
Avco Defense and Industrial Products, Stratford, Conn.

Engineers Wanted: For top-flight men, Crosley offers unusual opportunities to explore new scientific frontiers. Write to Director of Engineering, Crosley Government Products, Cincinnati 15, Ohio

TODAY'S MILITARY SERVICES, WITH THEIR TREMENDOUS TECHNOLOGICAL ADVANCES MADE POSSIBLE THROUGH SCIENCE, OFFER A VITAL, REWARDING CAREER.

defense and industrial products

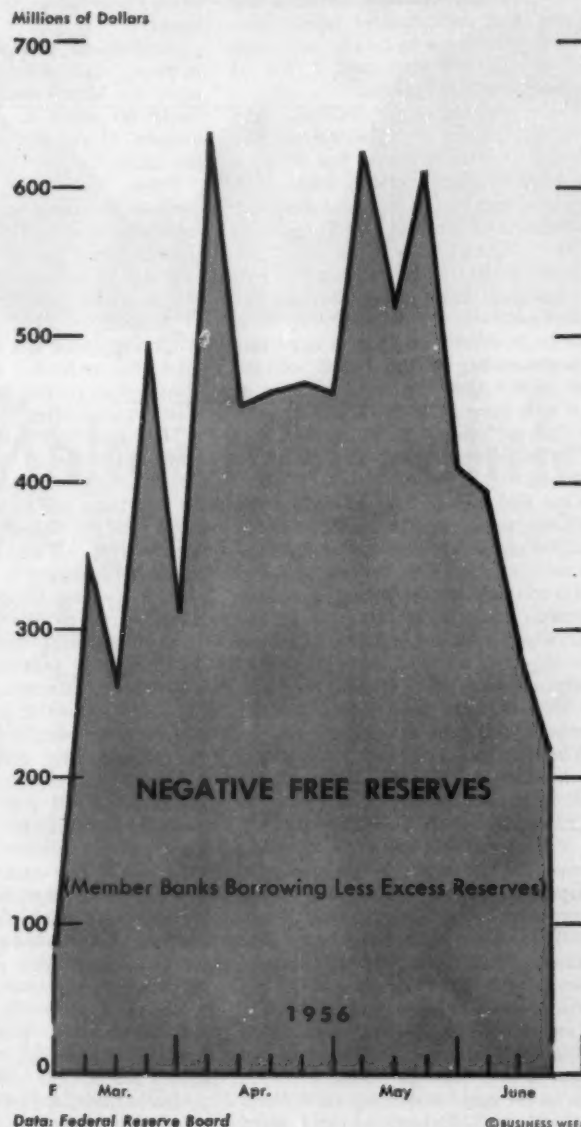
FOR A COPY OF THIS PIENING ILLUSTRATION, SUITABLE FOR FRAMING, WRITE TO PUBLIC RELATIONS DEPT., AVCO DEFENSE AND INDUSTRIAL PRODUCTS, STRATFORD, CONN.

THE SQUEEZE EASES

● Without any official announcement, the Federal Reserve has eased the pressure on credit.

● The tipoff is that the banks have been able to cut their debts to the Fed (chart) even though demand for credit still is strong.

● This easier reserve position means business borrowers will get a better break.



Money Managers Loosen Up Credit

This week, credit started to get easier. The squeeze, which has been maintained by the nation's monetary managers with increasing severity ever since the beginning of 1955, appears to be nearing its end.

There has been no public announcement of a switch by the Federal Reserve System. But the Fed has quietly made credit available to meet business demand for loans; it has provided mem-

ber commercial banks with fresh reserves.

This action has already eased the pressure on the nation's banking system—and further relaxation is expected. This means that borrowers will again be able to borrow freely—and at lower interest charges.

• **Banks in Hock**—The shift to easier money is still in the making. But there is no question that the banks have felt

the first impact of the change. Ever since the Fed made its last tightening move in April by raising the discount rate—the interest charged to member banks for borrowings at the Fed—the banks have been increasingly in hock.

At the peak of the credit squeeze in April and May, negative free reserves—the difference between member banks' excess reserves and their borrowings from the Fed—soared above \$600-mil-

lion (chart, page 23). But last week the banking system's reserve deficiency had dwindled to \$217-million, the lowest it has been since February.

• **Worst Is Over**—As a result, the entire money market is beginning to believe that the peak of tightness has passed. This week, the rate on bankers' acceptances declined one-eighth of 1%, the first drop since January. And the 91-day Treasury bill rate, which is one of the chief indicators of money conditions, went down to 2.43%, compared with 2.58% last week and 2.78% at the height of the squeeze.

These are still minor changes. And there is a chance that the squeeze will reassert itself in the next few days, as corporations take out new loans after paying their June tax bills. But any resumption of pressure now is expected to be temporary.

• **Basic Shift**—This is because the Fed has definitely changed its views on the immediate business outlook. In contrast to its former attitude of expecting a continuation of the boom, officials now admit that the third quarter at least will show a "letdown." They also say that there has been a "marked shift in business sentiment" that must be watched.

One Fed official tried to explain the shift in terms of the traffic analogy that the monetary managers have used before. In late 1955, he said, the Fed had a red light up, reflecting increasing tightness. Just after the turn of the year, when it looked as if the boom was petering out, the Fed switched to an orange warning light. It went red again in March. And now it is "flashing orange," with intervals of green.

Though the Fed has changed its thinking, it is intent on demonstrating that it is not moving in response to political pressure (BW—May 5 '56, p196). So it has confined itself to supplying reserves to the banks in the most inconspicuous way possible—by buying government securities in the open market. These open-market purchases have increased bank reserves in the form of deposits with the Fed without advertising any change in Fed policy.

• **Demand Slackens**—The squeeze is also ending because the demand for money is not quite so strong as it has been in the past. According to William McC. Martin, chairman of the Federal Reserve Board, this demand played a big part in the squeeze. He attributes the tightening this spring to the surprisingly heavy demand for credit. The Fed did not anticipate this and did nothing to supply additional reserves.

This policy of limiting reserves when demand was strong meant that there was not enough credit to go round. The banks rationed their customers, turning away marginal borrowers and cutting down on the amounts requested

by their regular clients. All borrowers had to pay more for the amounts they were able to get.

Now it is clear that demand is falling below expectations. Up until a few weeks back, Fed officials were saying that demand for credit to meet the June tax date would be at least as big as it was in March (BW—Jun. 2 '56, p30). The Fed began supplying reserves based on its optimistic projections of demand.

At midweek, it appeared that demand in June, while substantial, will not be up to the March level. But the Fed has made no move to cut back on the amount of reserves it is supplying to the banks.

From the Fed's viewpoint, this method of easing the squeeze is preferable to more overt action such as a reduction in the reserve requirements that member banks must meet. The Fed can now point to the lower level of demand as proof that its policy of restricting credit has worked. "We got what we wanted," said one official. "Business is cooling off, and that's just what we were after."

• **How Easy?**—It is still hard to determine just how easy money will get. If demand continues to slacken, it is possible that there will be more than enough credit to go round—especially short-term credit. This is because most business borrowing is short-term—to replenish working capital, to accumulate inventory, or to pay taxes.

The slackening of business demand for loans is an indication that business is no longer accumulating inventory at the feverish pace of earlier in the year and, in some cases, is actually beginning to unload. Any acceleration in this trend will not only mean less demand for loans—it will also mean that many corporations will be paying off past loans and accumulating cash as well.

Much of this cash will be invested in commercial paper and Treasury bills, so that these yields can be expected to decline. And the lower level of demand for loans may even permit the banks to eliminate borrowings from the Fed.

• **Discount Rate**—This may not happen immediately but, now that the squeeze is ending, more loosening moves are in the cards. It is highly probable that the Fed's first open move will be to lower the discount rate. It hiked the discount rate five times over the 14 months as a signal of its restrictive policy, and it will undoubtedly signal an ease-up by lowering the rate.

This rate now stands at 3% for the Minneapolis and San Francisco districts and at 2½% in the other 10 regional Feds, so that the hint may be a lowering by those now at 3%, or else a uniform move down to 2½%.

This should lead to lower interest rates for all borrowers.

Atomic Sharing

U. S. and Britain agree to pool knowhow about atomic engines for military ships, planes.

A new U.S.-British atomic partnership appears to be in the making as a result of an agreement concluded by the two nations last week.

The agreement, which will become effective if Congress does not reject it within 30 days, calls for an exchange of information on atomic engines for military propulsion. Neither country has requested any specific information from the other yet—the agreement simply clears the diplomatic roadblocks for such requests. But the British are expected to put in an early bid for data on atomic power plants for submarines, like that of the Nautilus.

The agreement is unique in several respects. The U.S. has provided some military information, chiefly on the effects of atomic weapons, to member nations of the North Atlantic Treaty Organization. But it has never transmitted to other countries any data on the Nautilus reactor or on those we hope to build for aircraft and surface ships.

Great Britain and Canada collaborated with the U.S. during World War II in development of the atomic bomb, and Canada is expected to reach a similar agreement with the U.S.

• **More to Give**—For the short term, at least, it appears the British will have far more to gain from the agreement than this country. As a major naval power, Britain has an obvious interest in nuclear propulsion for shipping. Some experts believe that access to our data on marine uses could save the British as much as four years in building nuclear-powered warships.

The U.S. is probably also a little ahead of the United Kingdom in developing an atomic engine for aircraft, but its lead in this field is much narrower. Apparently, neither country has achieved the kind of technological "breakthrough" necessary to develop a practical reactor for aircraft.

For the long haul, the greatest gain to the U.S. probably will be in such fields as aircraft propulsion and stationary power plants, where exchange of information could avoid duplication of costly and lengthy experiments.

• **Partnership**—There is little doubt that the exchange deal was concluded largely at the instigation of the British. The British government has drawn criticism for its decision to develop its own atomic and thermonuclear (hydrogen bomb) weapons.

Thousands of Unemployed

250

200

150

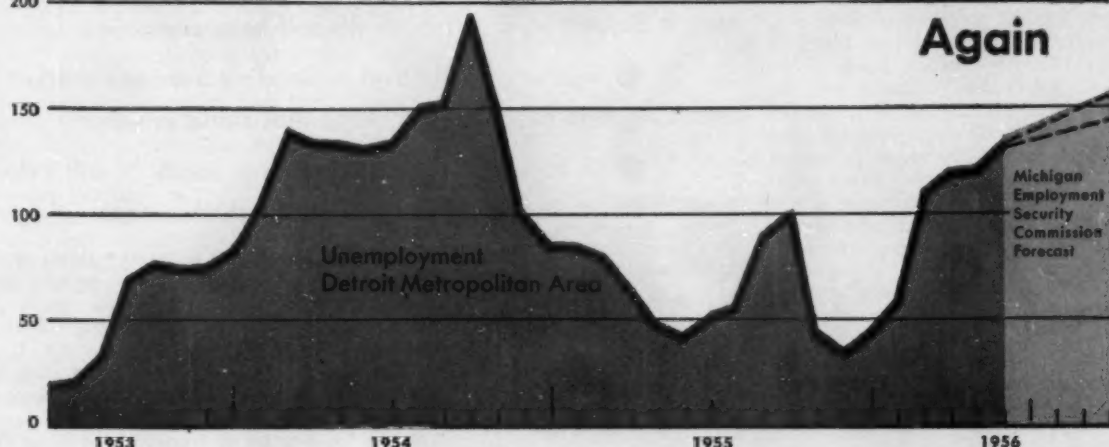
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50

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Detroit Unemployment Heads Upward

Again



Data: Michigan Employment Security Commission.

©BUSINESS WEEK

Auto Squeeze Makes Hot Politics

The chart above tells a story of near-crisis in one of the nation's largest cities and in one of the pivotal states—in this election year.

Unemployment in Detroit is now at its highest in two years. It's expected to keep climbing through September. The same is true in Michigan as a whole, where the number of jobless is forecast to reach as high as 260,000—about 10% of the labor force—in September.

If this dismal outlook by the Michigan Employment Security Commission is realized, it will mean that Michigan unemployment in September this year will be higher than at any time since September, 1954, when Chrysler and some other auto makers shut down plants for an abnormally long model-change period preceding production of the greatly changed 1955 models.

• **Political Pressures**—That year, unemployment, as the prime political issue in the Michigan senatorial and gubernatorial elections, was responsible more than any other single issue for the reelection of Democratic Gov. G. Mennen Williams and the unseating of Republican Sen. Homer Ferguson.

This year, the political as well as the social aspects of Detroit's and Michigan's unemployment have prompted a series of highly unusual incidents:

• **United Automobile Workers** called a conference of mayors of 41 cities where there are auto or parts plants. This meeting was primarily a sounding board for UAW's proposals that unemployment compensation bene-

fits be raised, more defense work be sent to the affected plants, and that the auto companies schedule their production better.

• A demand by Gov. Williams, in a special session of the legislature, for unemployment compensation benefits up to 90% of pay for as long as 39 weeks. The Republican-controlled legislature intended to do nothing about the proposal, but changed its mind when Albert E. Cobo, mayor of Detroit and Williams' most likely opponent for reelection, also urged some extension of the benefit period.

• An unprecedented meeting called to mull over the unemployment problem and attended by UAW Pres. Walter Reuther; Gov. Williams; Mayor Cobo; Harry W. Anderson, GM's vice-president for personnel; John S. Bugas, Ford's vice-president for industrial relations; John D. Leary, Chrysler's director of labor relations; and E. L. Cushman, American Motors' vice-president for industrial relations.

Anderson, Bugas, and Leary said their companies expect no more heavy layoffs during the course of the 1956 model run. The Ford and GM men said unemployment at their plants has reached its peak and is starting to decline.

But the management representatives did agree to study several UAW proposals for alleviating unemployment. One of the proposals that won't get any study was UAW's idea of a joint union-management "task force" that would go to Washington to seek gov-

ernment assistance in solving the unemployment problem. Bugas expressed management's sentiment about this when he said, "We have an aversion to seeking governmental aid or assistance on a shotgun basis by marching on Washington."

Management did agree to consider five other UAW proposals for concerted action. These were to seek: (1) speeding up of delivery dates of defense contracts, (2) revision of defense contract policies, (3) public construction projects for Michigan's and Detroit's critical unemployment areas; (4) a program of industrial rehabilitation; and (5) an investigation of the Federal Reserve Board's policy.

But it's not only politics that has Reuther and the public officials worried.

• **Funds Dry Up**—High unemployment apparently has not yet affected Detroit retail sales—in the first week of June they were up 2% over the comparable week a year ago—but unemployment compensation benefits are running out. And this is bound to cut into business activity throughout metropolitan Detroit and the whole state.

MESC estimates that 10,000 UC claims will run out during June, another 13,000 during July, and a further 20,000 during August. Daniel J. Ryan, superintendent of the Detroit Welfare Dept., says that about two-thirds of those UC exhaustions will hit workers living in Detroit.

• **Detroit's Pinch**—Ryan gave a picture of the trouble the city could face by citing these figures: When this year

opened, 3,647 persons were on Detroit's relief rolls; at midweek, 4,786 were receiving assistance from the city (1,262 of these were applicants getting temporary assistance). By late August he expects there'll be a peak in demands for city relief when those large numbers of UC claimants are forced to turn to the city's welfare funds.

Auto production cutbacks bringing dealer inventories in line with demand have spawned the unemployment. The cutbacks and layoffs began in earnest after the first of the year. The sharpest monthly rise in unemployment in the Detroit area came between mid-January and mid-February, when unemployment jumped from 60,000 to 110,000. Applications for UC rose accordingly from 31,580 during January to 69,806 in February, MESOC says.

• **State Moves**—Gov. Williams called the special session of the legislature last week, immediately asked it to increase state UC benefits to 66½% of a worker's average take-home pay, plus \$5 for each dependent, up to a maximum of 90% of weekly pay. He also asked that duration of payments be extended from a maximum of 26 weeks to 39 weeks. Republican leaders denounced Williams' plea as "anti-business," and "calculated immoderation." They said it was a political move, charged that it would mean sharp tax increases for businesses and would exhaust the state's \$340-million trust fund from which UC is paid. Mayor Cobo's official declaration as a candidate for the GOP gubernatorial nomination tempered legislators' feelings somewhat and they scheduled for midweek another session of the legislature for possible action on UC.

• **Forecast**—Meanwhile, other public officials, looking toward the end of the year, are pondering the question: Will the 1957 model production by itself clear up the unemployment? Dealer inventories still are above 750,000—some estimates put them at more than 800,000. Optimistic industry observers in Detroit believe inventories will fall to around 500,000 or less by the time new models are introduced.

But, at present sales rates, 500,000 cars in inventory still represent about one month's supply. Cautious market analysts concede that the all-new 1957 models will give sales a shot-in-the-arm, but they still have a nagging feeling that the 1956 inventories might tend to get 1957 sales off to a slow start.

A look at the unemployment figures lends point to their worry. At the end of 1954, the auto industry had one of the lowest dealer inventory figures in history—about 357,000. Still, unemployment dropped slowly. As late as November, 1954, it stood at 100,000, and it didn't come down to a nominal 43,000 until the following May.

Why Coal Men

● New shipping company backed by coal-rail-union bloc is boldest step yet in coal's self-help campaign.

● Aim is to nail down expanding overseas market by attacking high ocean freight rates that stand in way.

● If rates don't fall, company insists it will "do-it-itself" with its own ships—and industry thinks it can.

U.S. coal men, still rubbing their eyes in the unaccustomed glare of a fast brightening horizon after their climb out of postwar darkness, are a determined lot these days. They're resolved to leave nothing undone to make sure that the future they glimpse becomes a firm reality, and they're ready to jump in themselves to do what's necessary—even if it means putting themselves in the shipping business.

The latest and boldest step in coal's self-help campaign comes to just that. Last week a joint industry-union-railroad group announced that it would form a new \$50-million shipping company—American Coal Shipping, Inc.—to promote coal exports (BW—Jun.16 '56,p36).

Behind this move—probably the most dramatic case on record of an industry getting together to tear down the roadblocks and insure its own future—is the coal men's determination to do two things: (1) nail down the expanding market for U.S. coal they see beckoning overseas, particularly in Europe, and (2) clear away the hurdle of sky-high ocean shipping rates on coal that seems to stand in the way.

Industry backers of the new company take in both coal operators—mostly from the Southern Coal Producers Assn.—and coal exporting companies. Giant Pittsburgh Consolidation Coal Co. tops the list. Railroads joining in are the Chesapeake & Ohio Ry. and the Norfolk & Western Ry., two of the "Pocahontas roads" (BW—Mar.31'56,p52). The United Mine Workers is also represented. Each of the three groups will acquire a one-third interest. Chairman of the board is Richard L. Bowditch, of C. H. Sprague & Son Co.

• **No Idle Threat**—In announcing the new company, C&O Pres. Walter J. Tuohy asserted flatly its intention "to enter immediately into the ocean shipping business, by acquiring ships of its own and placing them in the export coal trade." But at midweek, the new company had made no overt move in that direction. In fact, it hadn't selected officers, nor a headquarters.

Industry men, therefore, were describing the new setup as (for the time

being at least) primarily a threat—a club to be used by coal men to beat down ocean freight rates on coal. These rates have soared to \$11 a ton today from \$4 a ton as recently as 1953.

If present ship owners cut rates to a figure the directors of the new company believe is reasonable and fair—whether as a result of availability of more shipping space, or in response to the coal men's club—it's quite possible that an American Coal Shipping, Inc., fleet may never ply the ocean.

But—the insiders insist—if rates don't go down, the new company isn't bluffing about acquiring vessels that will fly the U.S. flag and compete actively with the foreign registered vessels now transporting coal overseas.

Any attempt by the company to pry loose government ships for its purpose would probably stir shipping companies to a fight—but the consensus in Washington is that the coal-rail-union bloc would get the ships.

• **Exciting**—What is giving the coal men the yen to go to sea is this exciting prospect: a potential market for U.S. coal in Europe, South America, and Japan that could build up in a few years, some think, to 100-million tons annually. And they see in fluctuating ocean shipping rates the only real threat to the development of such a market for the high quality coals from the Southern coal-producing region.

Right now, it costs as much to transport this coal from Virginia ports to Europe as the coal costs laid down at ship rail at the domestic port.

• **Slice**—That beckoning export market—along with the domestic electric power and steel markets—makes up a big slice of the future demand for which the U.S. coal industry is actively rebuilding itself (BW—Jun.9'56,p142).

Coal exports, which have been pushing up year by year since 1954, are expected to top 40-million tons this year. Biggest buyer is Europe, with its increasing demands for bituminous to supply its factories and steel mills. Last year it took 27-million tons—71% of U.S. exports. The Organization for European Economic Cooperation sees the Continent's demand for U.S. coal

Threaten to Sail Their Own Ships

reaching 55-million tons by 1975 (BW—Jun. 16 '56, p157).

The great bulk of this demand will be for metallurgical purposes—last year metallurgical coal made up 17.5-million of Europe's 27-million take.

After the long, lean years from 1948 to 1954, U. S. coal men are reaching out aggressively for the expanding European market. As in the U. S., one method is long-term contracts.

• **Originators**—The new shipping venture as a weapon in this battle is no overnight notion. Member companies in the venture credit Joe Moody, president of the Southern Coal Producers Assn. with a three-year effort that culminated in bringing coal, rail, and union men into the same business tent.

When UMW's John L. Lewis broached a similar idea in 1950, he had the support of Island Creek Coal Co. and Pitt Consol.

Some longtime coal operators also see behind the facade the figure of Cyrus S. Eaton, head of West Kentucky Coal Co. and board chairman of the C&O. They see the move as not only profiting the C&O, but tying in also with long-range Eaton plans in South America, particularly in Brazil.

• **Organizing**—American Coal Shipping, Inc., once it becomes operative, aims at conducting a profit-making business. But as of midweek, its specific plans were still very indefinite.

Member companies have discussed various possibilities: chartering or buying Liberty-type vessels mothballed by the government, securing vessels from other sources, or buying new 40,000 to 50,000 ton ships.

On government ships, the Federal Maritime Board controls all chartering, and purchase of reserve fleet ships requires a Congress O.K. Cost of chartering Liberty ships is set by law at around \$7,000 a month, purchase price about \$500,000 (on the world market Liberties bring close to \$1.2-million). So far the new company has had only token talks with Maritime, and no ship-buying bills have got into Congress (nor has ACS approached seagoing unions about special terms for manning coal ships).

Once American Coal Shipping had its vessels, it would still have some shoals ahead. Operating under the U. S. flag and paying U. S. wages, it's a question whether it could compete with cheaper operating foreign ships if shipping space increased and rates dropped. The foreign buyers themselves are also a possible snag: Now they normally buy f.o.b. Hampton Roads, Va., select the ships, pay in their own or some soft currency. Many might not like the change to U. S. carriers.





CONTESTANTS in Sew-Off from all over the U. S. and Canada . . .



make dresses from fabrics and patterns . . .

Home Sewing Contest Fires up a



CROWDS jam the 10-day exhibition at New York's Coliseum—at \$1 per admission. Even the skeptics conceded that there's plenty of interest in home sewing.

LAST WEEKEND was Ladies' Day at New York's Coliseum. Close to 70,000 women and children (some men, too) jammed the new exhibition hall for the first Sewing Fashion Festival. Singer Sewing Machine Co. was the sponsor; the 26 exhibitors included pattern companies, sewing accessory manufacturers, fabric houses—all with a stake in luring more people to the home sewing machine.

For their dollar admission fee, spectators got demonstrations in all manner of things—how to cut patterns, how to make upholstery, how to put in zippers, how to produce embroidery stitches on Singer's newest automatic sewing machine—plus plenty of hoopla provided by Broadway and TV artists.

Highlight of the festival was the Grand Sew-Off, in which 33 women from all over the U. S. and Canada competed for \$125,000 worth of prizes. The 33 were picked on the basis of



picked from a wide assortment at the show.

Hot Market

local competitions held earlier this year. To enter, every woman had to take a course at a Singer Sewing Center, for which she paid \$15. According to Charles F. Bruder, Singer vice-president, close to 48,000 women entered the local contests.

• **Promotion Plus**—Skeptics who had felt that such an exhibit could never stand on its own feet admitted that they couldn't have been more wrong. The turnout abundantly attested one fact: There's plenty of interest today in home sewing. While only J. P. Stevens & Co. among the big fabric houses had a display this year, at least six have already indicated interest in next year's show.

Singer won't say how much it spent for this huge promotion, but obviously it was plenty. You might call the reasons behind it both offensive and defensive. On the offensive side, most people concerned with home sewing be-



ADVICE for children, too. Everyone in the home sewing business is energetically wooing young customers.



PATTERNS on parade. Four pattern makers had exhibits. McCall offered prizes, all had styling advice.



HOOPLA for visitors. Twice daily, TV and Broadway stars put on a show. Here Edie Adams entertains.



lieve that interest in it is at a peak, that now is the time to strike. Defensively, the sewing machine people are up against some stiff competition.

• **How Big**—Because Singer does a minimum of talking about its activities, there are no precise estimates of just how big the sewing machine business is. All that Bruder will say is that industry estimates generally place retail sales in the U.S. at between 1.3-million and 1.6-million units a year. Electrical Merchandising, a McGraw-Hill publication, last January estimated that sales this year might run 1.8-million—which is below their 1952 estimate of some 2-million machines sold.

• **Competition**—By now it's an old story that imported machines—from Italy, Japan, Switzerland, and Germany—have become a vital factor in the sale of machines. Singer itself granted several years ago that the postwar competition from overseas had given domestic manufacturers a rough shaking.

Import figures, as reported by the Dept. of Commerce, aren't too precise because they include industrial machines. But as an indication, they show how unit imports since 1951 have run:

| | 1951 | 1955 |
|-------------|---------|---------|
| Japan | 346,000 | 656,000 |
| Germany | 23,000 | 330,000 |
| Italy | 49,000 | 76,000 |
| Switzerland | 6,561 | 36,900 |

Singer says it isn't worried by the growth of the import business; it points to peak sales of some \$354-million last year as proof that imports haven't hurt. The company reports that in dollars it is running ahead of last year, but in units it may not be up to 1955's sales. Its departure from tradition to take on big department stores 'as outlets suggests that it feels the competition (BW—Oct.29'55,p64). White Sewing Machine Corp., the No. 2 U.S. manufacturer, frankly admits to a squeeze—and is diversifying into other products to offset it.

Japan is way out front in number and dollar value of machines sold to the

U.S. But Japanese output is largely in the inexpensive and middle-priced models. And in some respects it is the European manufacturers—who include such big names as Pfaff from Germany, Necchi from Italy, and Elna from Switzerland—that have had the most important effect on the U.S. producers. They have stepped up the competitive pressures not only quantitatively but qualitatively as well.

• **Fancy Stitches**—For years it was a favorite tenet of Singer that the U.S. home sewer was interested in plain sewing. The success of the famous zig-zag machines from Europe—high in price and with many fancy tricks—taught the U.S. industry something different. Women today will buy machines that do more than plain sewing.

There's more natural interest right now, says Bruder, in Singer's inexpensive portables and their highest-priced machines (they go up to \$400 and over) than in the plain workhorse type—which still bulks largest in unit sales.

• **New Hobby**—What has happened is something of a revolution in home sewing trends. The economic factor has less importance to women in an economy where everyone feels more prosperous. Surveys by pattern makers in recent years strongly indicate that more and more women sew because sewing is fun (BW—Feb.18'56,p72).

Actually several crosscurrents appear to be at work. On the one hand ready-to-wear is inexpensive, and the whole trend in recent years is to down grade the importance of apparel in consumer spending (BW—Jun.16'56,p104). Yet the relative simplicity of much of today's styling makes it easier for women to sew garments that will be fashionable. In this day of standardization, home sewing is one way to get individuality of style, quality of fabric, high fashion, at a reasonable price.

Fred Sellmeyer, president of Pfaff American Sales Corp., puts it this way: "Women want a sewing machine flexible enough and advanced enough to be able to interpret their urge to create."

Rebirth of Debt Reduction

● The Treasury is closing its fiscal year with a \$2-billion slash—the first in eight years.

● What's more, it was planned that way. And Congress will lower the debt ceiling by \$3-billion.

● November's election, and the economy, will decide whether reduction will be pushed further.

Next week the Administration will be closing books on a notable year in the history of the federal budget.

• There is a surplus, for the first time in five years.

• There is a reduction in the debt, for the first time in eight years. This has been achieved by deliberate intention.

• There will be reduction in the ceiling that Congress establishes over the debt—a drop from \$281-billion to \$278-billion. A bill lowering the ceiling began moving through Congress this week, backed by the Administration, with full support from both Democrats and Republicans.

These events foreshadow something even more important. For the first time in a quarter of a century, there is a possibility that regular reductions in the debt will become a part of the economic and political climate. For business, this means the impact of the federal budget may no longer be on the side of inflation. For Treasury officials, it means managing the reductions in a way that will not encourage deflation.

• **About Face**—This is an abrupt switch from the point of view that has prevailed for the past 20-odd years.

The outlook for debt reduction advanced with a rush this year, as the boom created a flood of tax dollars. Pres. Eisenhower took the lead with a series of statements urging modest reductions in the name of "fiscal integrity." He has argued consistently for putting debt reduction ahead of tax cuts. He was privately encouraged by two of his closest economic advisers—Dr. Arthur F. Burns, chairman of the Council of Economic Advisers, and Gabriel S. Hauge, Eisenhower's administrative assistant for economic affairs.

Treasury Secy. George M. Humphrey, originally not a supporter of debt reduction for this fiscal year, later joined the group. Key Republican party leaders are convinced that token payments on the debt are politically appealing; in recent months there has been a consistent swing of Democratic opinion in the same direction. All the influential Democrats in Congress are

stressing "fiscal responsibility," and are talking about saving something for small debt reductions when the next tax cut is voted.

• **The Election**—Of course, the next cycle of thinking about the debt depends in great measure on who wins in November, and whether the present soft spots in the economy spread into a general downturn. If the Republicans win, debt reduction will stay high on the next Administration's list of policy goals, while a Democratic victory would lessen the prospects. And a downturn in business would again shove the dream of debt reduction into the future. But with Republican hopes for November as bright as they are, and as long as the economy keeps rolling at its present pace, debt reduction is back in the picture.

This year's cut, in the neighborhood of \$2-billion, poses no particular problem. It stems from surplus that will be posted on the books this Friday, when the last of some \$4.4-billion of tax anticipation certificates are turned in by their holders as part of their June tax liability. The disappearance of this much debt will leave the total around \$272-billion on June 30, the last day of the fiscal year, compared to \$274-billion a year ago.

• **Day by Day**—Debt reduction is not a matter of waiting for a surplus to pile up at the end of a fiscal year, however. Humphrey told the Ways & Means Committee that the process is a day-by-day thing, done throughout the year as a part of the Treasury's routine debt management. Last fiscal year, for example, the Treasury had to increase the debt in April in order to raise cash with which to finish the year. This year, tax receipts have been ample.

The debt can also be trimmed when there is a refunding of securities. Thus if \$5-billion worth of notes were coming due, the Treasury might offer a new issue of only \$4-billion worth, thus reducing the debt \$1-billion.

As a result of such operations, some types of securities are expanded even in a year when the debt as a whole shrinks. This year, bonds outstanding have increased \$650-million; so have the two

short-term securities: certificates (up around \$2.3-billion), and bills (about \$1.3-billion).

These increases have been more than offset by declines of \$4.6-billion in Treasury notes, \$848-million in savings bonds, and a shrinkage in several miscellaneous types of securities. In all likelihood this same mixed pattern will be followed again next year. The choice of what to expand and what to shrink lies entirely with the Treasury Dept.; Congress has never tried to issue explicit orders in this highly technical field.

Actually, there has been a growth of short-term debt in the past year. Today, maturities that mature within a year amount to \$71.2-billion, compared with \$65.9-billion a year ago. The need to go to the market so frequently often has an inflationary impact, because most short-term securities are held by the banks. Thus, even though the debt has been reduced, the fact that a higher proportion is in short-term securities is a strong offset to any deflationary impact.

• **Gradualism**—Under Secy. W. Randolph Burgess, who directs debt management operations for the Treasury, has long advocated a gradual reduction in the debt. But as chairman of the Committee on Public Debt Policy, which studied the problem in 1949 and produced a book that's still authoritative on the subject, he raises some warning signals. "Debt reduction is accomplished at a price," the committee said. In particular, it cites high taxes and the deflationary pressure as part of the price.

The deflationary impact might be heavy, if the reduction were large and if it were concentrated in a couple of years. However, the only modern experience with a reduction of this kind had no such deflationary effect.

After World War II, from 1946 through fiscal 1948, the debt shrank \$28.5-billion. Some of this was merely a case of canceling unspent cash balances left over from the fighting years. But almost \$10-billion of it came directly out of current surpluses. Moreover, Treasury Secy. John W. Snyder managed the operation in a way designed to have the greatest possible deflationary impact—he shrank the type of securities held mostly by commercial banks. All this was according to the book, just what theoreticians say a government should do if it wants to avoid serious inflation after a war.

• **On Both Shoulders**—However, Snyder at the same time was pushing his policy of having the Federal Reserve peg government security prices, which

had an opposite—and inflationary—effect. While he was operating his own debt management program as an engine of deflation, he saw to it that the Fed operated in the opposite direction. On balance, the economy got inflation.

During the 1920s, there was a different handling of debt reduction. The stress was on sustained and substantial cuts. Republican Administrations managed a series of debt reductions from the end of World War I to the beginning of the Depression in 1930. Over that period, the debt was reduced by about \$8-billion.

In some years, moreover, there were reductions of \$1-billion. Cuts of this size were about 5% of the total debt, yet they did not prove deflationary. Prices were steady, bank deposits and currency outside banks rose \$20-billion, and private debt rose some \$65-billion. Most students of the subject point out that the size of the debt in the 1920s amounted to a much smaller percentage of national income than it does today—so that even massive cuts in the debt did not have a big impact on the money markets.

• **What It Does**—The deflationary effect of debt reduction, as traditionally practiced by the Treasury, boils down to the economic impact of taking money away from taxpayers, and turning it over to investors.

New Boss, but Same Antitrust Policy

The Administration's new antitrust chief, Victor R. Hansen (picture, right), comes to his job from years of judicial service in the same court where retiring antitrust Stanley N. Barnes was a judge. Barnes played a big part in the decision to select Hansen as his successor.

And in those two facts lies this guide for businessmen: Antitrust policy in the Eisenhower Administration will stay on the same track that it has followed these last three and a half years.

Hansen, like Barnes in early 1953, comes to the job of Assistant Attorney General in charge of the Justice Dept.'s Antitrust Div. with no special background or training in antitrust law. He has been a judge of the Los Angeles County Superior Court for the last five years.

But unlike Barnes, Hansen will take over a well-defined and generally respected Republican antitrust policy.

Undoubtedly, there are some pending antitrust investigations—begun by Barnes—that will result in court prosecutions only if Hansen so decides. But all through his work, Hansen is likely to take his cue from Barnes' record. He's bound, for example, to carry on Barnes' policy of:

• Opposing any merger between

Treasury experts say that as long as investors turn around and put the cash to work in some other way, there's practically no deflationary effect. However, if investors sock their money away in their safety deposit boxes, then you get the full deflationary effect of debt reduction. With investors as aggressive as they have been in recent years, the Treasury isn't worried. But it would take only a slight change in the business climate to make a policy of debt reduction a powerful deflationary force.

There is no theorizing in the Administration on how much debt reduction would be practicable over a period of years. When Burgess' committee made its study of the debt, it suggested a first layer of perhaps \$30-billion to \$40-billion could be paid off with benefits to the economy—in the form of reduced interest charges to the government and less likelihood of inflation. Beyond that, the committee felt the price might get too high.

The Administration is aware that historically the tendency has been to pay off a smaller and smaller portion of the debt after each war. After the Civil War, the debt was cut 65%; after World War I, 40%; after World War II, 10%. This year saw the first payment on the debt incurred during the Korean fighting.

Bethlehem Steel Corp. and Youngstown Sheet & Tube Co.

• Supporting amendment of the antimerger law by requiring that big companies give the government advance notice of any merger plans.

• Giving businessmen accused of antitrust violations a chance to settle out of court whenever practical.



NEW ANTITRUSTER Victor R. Hansen.

Airpower Dollars

Senate committee adds an extra \$900-million to defense budget. Funds would beef up nation's airpower.

The Senate Appropriations Committee brought the Congressional debate over airpower to a showdown this week by adding an extra \$900-million to the Administration's Defense Dept. budget for fiscal 1957. The bulk of the funds are earmarked for purchase of up to 100 more Boeing B-52 heavy bombers; \$100-million will be used for a speed-up in Air Force research and development. The committee also voted an additional \$200-million for Air Force construction—primarily for B-52 bases. But this sum will be deducted later from legislation for military public works.

The appropriation bill comes up for a vote next week, and odds are the Senate will approve an increase—if not the full amount proposed, at least half of it. The House already has passed a \$33.6-billion military appropriation, which was pretty much in line with the Administration's budget proposal. Earlier it rejected a move to add \$1-billion.

• **Money Pleas**—The proposed increase comes in the midst of the Senate investigation into the adequacy of the nation's airpower program by a subcommittee headed by Sen. Stuart Symington (BW-May 12 '56, p. 32, Jun. 9 '56, p. 27). But most significantly, it follows Senate testimony by two Air Force generals who are bucking Administration policy by calling for more money.

Gen. Curtis E. LeMay, head of the Strategic Air Command, had asked the Appropriations Committee for \$3.8-billion more annually to step up B-52 production and bomber base construction. And, in statements released this week by Symington's committee, Lt. Gen. Donald L. Putt, Air Force Deputy Chief of Staff for Development, said important research projects are being delayed or canceled because of "inadequate" funds. He asked for at least \$250-million more to "keep us qualitatively ahead" of the Russians in technical airpower progress.

In April, when the Symington investigation was beginning, Pres. Eisenhower added \$547.1-million to the Pentagon's appropriation request. Almost half the sum was allocated for purchase of about 30 additional B-52s; \$50-million was earmarked to handle costs of "unforeseen developments" in the ballistic missile program.

• **Possible Action**—Though Congress increases the defense appropriation,



Most Miles Per Dollar on Sinclair's Oil Highways

Sinclair Pipe Line Company attained in 1955 the highest operating efficiency in its history, as shown by the ratio of expense to revenue.

This new record resulted from the Company's continuous, long-term program of system modernization, which includes increases in line capacities, development of new crude lines in areas of growing oil production, and location of new products lines the better to serve expanding markets.

Sinclair's network of pipe lines—totaling more than 11,000 miles—is one of the longest and most economical systems in the industry. Its crude gathering and trunk lines tap almost every major producing area east of the Rockies, speeding raw material to refineries. Company products lines supply gasolines, diesel fuel and heating oils to sales outlets in major consuming areas. Sinclair Pipe Line Company em-

ployes as well 9,300 miles of crude and products lines in which it shares ownership with other companies. Also, where most practical, it ships over common carrier lines in which it holds no interest. Both crude and products traffic on Sinclair's lines hit new highs last year.

This transportation web—together with fleets of tankers, barges, trucks, and tank cars—provides Sinclair with the flexibility and efficiency needed to serve profitable and growing markets in 36 states.

SINCLAIR

A Great Name in Oil

it is likely the Administration will spend little if any of the additional money next year. There are precedents for such action. When Congress added \$873.2-million to the 1950 military budget—mainly for aircraft procurement—Pres. Truman promptly slapped the funds into a reserve. The next year, he took the money out, considering it an asset, and deducted an equal amount from the military budget requests. Last year, Pres. Eisenhower took similar action when Congress tagged on \$42-million to the military budget to increase the size of the Marine Corps.

Right now, Boeing has orders for 500 B-52s. The Air Force plans to order an additional 100 planes by 1958-59. The extra funds voted by the Senate Appropriations Committee would enable the Air Force to place these orders one year earlier. (According to Pentagon estimates, the Russians will have about 1,200 intercontinental bombers by 1958-59.)

• **B-52 Policy**—But Administration policy is to stretch out B-52 output to keep heavy bomber production facilities going until a successor plane is developed. The present production rate is six planes monthly and is scheduled to jump to 20 monthly within 18 months.

Last week, former Asst. Air Force Secy. Trevor Gardner called the B-52 policy "nonsense." He told the Symington committee a more advanced heavy bomber is nowhere near development.

Lt. Gen. Clarence S. Irvine, Air Force Deputy Chief of Staff for Material, told the Symington committee recently that present capacity could handle a peak monthly production rate of 45 planes.

The Defense Dept. does not seem ready to step up B-52 production right now. Says one official: "The last thing we need is more B-52s. We have trouble absorbing present production." His point is the Air Force needs additional bomber bases, skilled personnel, and training facilities before it can handle any more B-52s. For these programs, however, the Appropriations Committee did not increase significantly the Administration's requests, as it did for aircraft production.

Republican Senate leaders are trying to trim down the total appropriation increase from \$1.1-billion to \$500-million. An amendment by Sen. Styles Bridges (R-N.H.) provides for only \$350-million extra for new B-52s. The Republicans argue that additional funds will not necessarily buy more planes faster, and that production is already being stepped up as fast as possible with existing capacity. The Democrats claim "an immediate acceleration" in B-52 output could result from an appropriation boost.



FOUR-WHEEL DRIVE pickup truck is part of GMC's new line that will mean . . .

Competition for the Jeep

Willys Motors' four-wheel drive Jeep is going to have to race for future sales with full power to all wheels. A new and giant competitor entered the field this week—GMC Truck & Coach Div. of General Motors announced a six-model line of four-wheel drive light trucks.

And Dodge Truck Div. of Chrysler, which has been selling one four-wheel drive vehicle, is broadening its line.

Willys has enjoyed the lion's share of the market for factory-installed four-wheel drive vehicles. Until the GMC announcement, the only other companies offering factory-installed four-wheel drive for light trucks (10,000-lb. gross weight or less) were Dodge and International Harvester. The market for four-wheel drive is mainly in light trucks, since 65% of all truck sales are in this category.

• **Market Potential**—Neither GMC, Dodge, nor International Harvester has a model as small and cheap as the Jeep, but the new entries in the field still can add up to bad news for Willys. After being forced out of the passenger car business, Willys officials have said privately they felt the company had a solid future in specialized vehicles—as long as the market potential was not attractive to the big auto companies.

But now it looks as if the big companies are attracted. And it probably was the big upsurge in sales for Willys four-wheel drive vehicles over the past two years that convinced them there was a good potential market for this type vehicle.

• **Big Promotion**—Two years ago, Willys started an extensive promotional campaign to stress the versatility of

four-wheel drive. And apparently it met with considerable success. Hickman Price, Jr., Willys sales vice-president, reports that 1955 four-wheel drive Jeep sales were up 40% over 1954. In an 11-state Western area—where the "go-any-place" ability of the Jeep is particularly useful—registrations jumped 65% in 1955.

• **New Contender**—Now the Willys Jeep will have to compete with GMC's six new four-wheel drive vehicles. These range from pickups (picture) to stake-body trucks, rated at from one-half ton to one ton. The smallest Jeep made by Willys is rated at one-quarter ton. The company also puts out a one-ton Jeep truck, as well as heavier four-wheel drive trucks.

Dodge has had a one-ton commercial version of its military four-wheel drive truck on the market since 1946. And now it is adding a larger truck with a V-8 engine.

Unlike Willys, GMC is getting into the field by making its four-wheel drive unit optional equipment—at an extra cost of \$850. But the equipment will be installed at GMC factories.

• **Outside Installation**—Two other makers of small trucks, Ford and General Motors' Chevrolet Div., make it possible for customers to get four-wheel drive. But they do not install the equipment themselves. Instead they ship trucks—on dealers' orders—from the factory to manufacturers of four-wheel drive units, where the installation work is done. Ford and Chevy think such a procedure is adequate in light of the volume of their truck sales and small number of four-wheel drive units involved. **END**



IT ANSWERS THE TELEPHONE WHEN YOU'RE OUT. The Automatic Answering and Recording Set takes and gives messages. Especially valuable for professional people, retail stores, contractors, TV repair shops, offices in homes and when offices are closed.

Another New Telephone Service for Business

Growing use of telephone aided by new equipment introduced by Bell System

The past few years have brought a great growth in the use of the telephone—especially in services for business and industry.

In addition to speech, and teletypewriter messages, Bell System lines now carry electrical signals for remote control and managing of industrial equipment, and also for transmitting data of many kinds between business machines.

Along with new services there have been interesting and exciting new things in equipment. One that is becoming increasingly popular is the Automatic Answering and Recording Set.

This is a compact unit connected with your telephone. It answers your phone automatically even when you are out, gives callers a recorded message in your own voice, and lets them leave messages, orders or instructions for you to play back when you return.

It is available at a moderate monthly rental and is a real bargain for many users.

The Automatic Answering and Recording Set, and the many other new service items, have come out of an accelerated program to meet the needs of our customers and to make telephone service more useful and profitable for everyone.

BELL TELEPHONE SYSTEM



In Business

SEC Wants a Hand in Protecting Variable Annuity Buyers

In a variable annuity life insurance policy, your premiums are invested largely in common stocks, and the ultimate payments to you go up and down with the return on the shares. The idea is that you have a hedge against the soaring prices of inflation.

But the Securities & Exchange Commission believes that such a policy is not really insurance, but investment in securities. That's why it has brought a test case suit in Washington, (D. C.) federal court to halt sales of the policies by the Variable Annuity Life Insurance Co. of America, Inc.

SEC takes pains to point out that it is not throwing rocks at Valic. But it wants to force Valic to register its policies just like any other investment company that deals in securities. Valic's policyholders, SEC says, are entitled to the same legal protection that is given to other investors.

On its side, Valic argues that its policies should be subject only to the insurance regulations of the several states.

\$34.4-Million Wins Last Slice Of Seized Rohm & Haas Stock

The U.S. government this week sold its last stock in Rohm & Haas Co., Philadelphia producer of plastics and chemicals, which it seized in 1942 as enemy property (BW—May 19 '56, p160).

The successful bidder for the 79,213 shares of common and 4,810 shares of 4% cumulative preferred was a syndicate of 73 underwriters represented by Kidder, Peabody & Co. and Drexel & Co. The price: \$34,405,649.61, or \$428.2512 a share for the common and \$100.33 for the preferred. The common has increased tenfold in value since 1949, when the government sold another batch of preferred, but was balked by an estate suit from selling the present batch.

Dow Chemical Ponders a Plunge Into the Oil Business

Dow Chemical Co. is thinking of going into the oil business. Officials of Dow's Midland (Mich.) division say they are taking an option to buy Bay Refining Corp. and its associated Bay Pipe Line Corp.

If the deal goes through, Dow plans a petrochemicals plant next to the Bay refinery at Bay City, Mich.

Mergers on the fire: Directors of both companies have approved merger of Continental Telephone Co. and General Telephone Corp. Stockholders will decide

Aug. 7. . . . Stockholders of the Newark (Del.) Trust Co. will vote June 30 on sale of their bank to the Farmers Bank of the State of Delaware.

. . . And merger cooled off: Discussions have been called off on the proposed merger of International Tel & Tel and Underwood Corp.

Sales and expansions: Directors of both companies have O.K.'d the sale of the machinery and trade relationships of Oliver Iron & Steel Corp.'s Fastener Div. to Pittsburgh Screw & Bolt Corp. Hudson Pulp & Paper Corp. expects a \$25-million newsprint plant to go into production late in 1958 at Palatka, Fla. . . . Work has started on a \$19-million expansion of Lockheed Aircraft Corp.'s California Div. It's part of a \$92-million long-range plan.

Ohio's Cash-Starved Turnpike Tries Cut Rates, Discounts

After trying a swarm of gimmicks to lure truck traffic—including showers for drivers—the Ohio Turnpike Commission has finally grasped the nettle of lowering commercial tolls and O.K.'ing volume discounts.

From June 26 to Sept. 30, tolls will be down between 3% and 28%; with 10% discounts for customers paying \$2,000 a month and over.

In the first seven months of the pike's operation tolls covered only 75% of bond interest, with the difference made up out of a construction surplus (BW—Jun. 9 '56, p166). But this well has run dry, and the commission faces default unless it can boost revenues. It hopes the truck rate cut will bring in an average \$1.5-million a year extra.

Business Briefs

A research reactor for training atomic scientists will be built for Munich's Technical University by American Machine & Foundry Co. The U. S. government will supply the nuclear fuel.

Skimming the cream: Brown & Root, Inc., of Houston (BW—May 12 '56, p84), has hired six top officials of Houston Oil Co., including Pres. Harold Decker. Houston Oil was recently sold to Atlantic Refining Co. and Time, Inc. Decker will become head of Brown & Root's Highland Oil Co.

The Texas oil allowable for July has been boosted a daily 70,973 bbl., despite the pleas for a cut by most major purchasers.

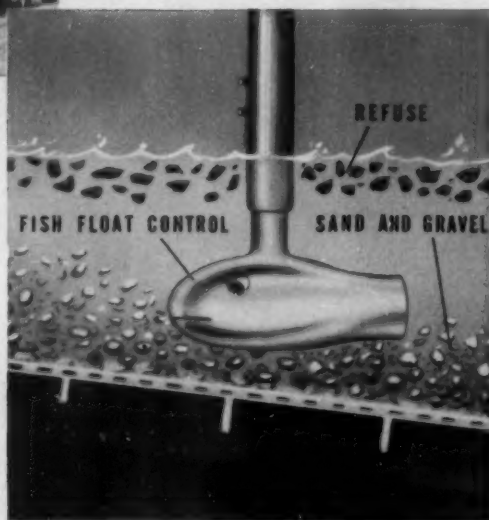
SEC is trying to soothe the fears of many companies that joining in a nuclear power project would bring them under the Utility Holding Company Act of 1935. The agency has moved to amend its own rules so that manufacturers and utilities would be specifically exempted from the act if their project was non-profit and primarily for research and development.

What's NEW in Mechanization?



◀ **Feeding a hungry plant** is remotely controlled by pushbuttons with these four Jeffrey vibrating feeders on the job. Raw materials are drawn from the bins one at a time or in combination, and are carried into the plant on the Jeffrey belt conveyor underneath. Since the Jeffrey feeders respond instantly to their controls, the operator is always certain that his commands are being followed. Supervisory labor is saved and high quality is maintained.

▶ **Jigging cleans sand and gravel** at low cost. Jeffrey is the leading manufacturer of jigs, which separate solids according to specific gravities by up-and-down pulsations of water. The fish float shown is a Jeffrey patented device which regulates medium-volume and the withdrawal of refuse.



◀ **Huge stocks of chain** are carried by Jeffrey and its distributors all over the country. Whether you're needing chain for power transmission or a materials handling operation, there's a Jeffrey chain for the purpose. Our engineers will help you select the type and size you need.

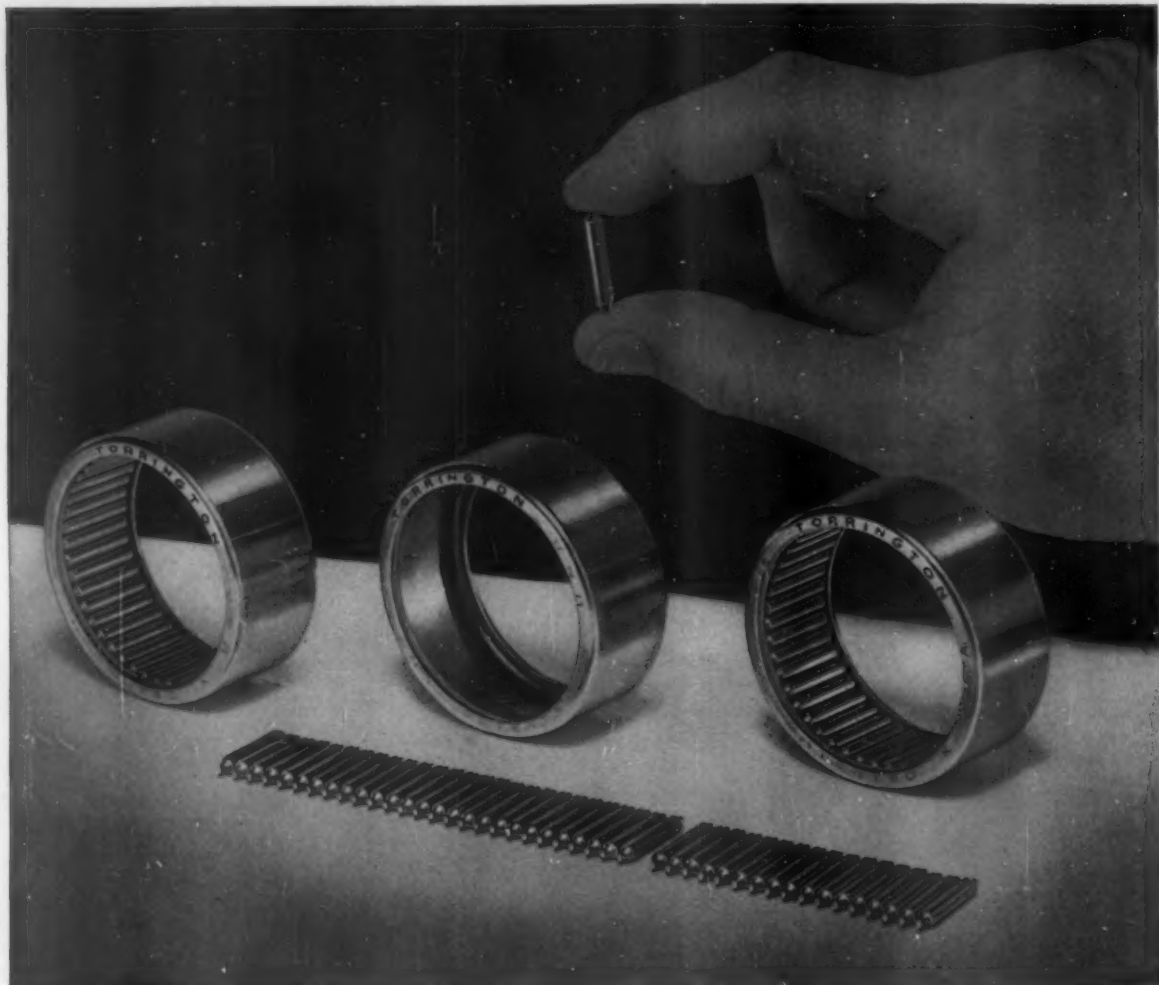
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The Torrington Needle Bearing delivers top anti-friction performance—with low coefficient of both starting and running friction.

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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
JUNE 23, 1956



Note the politics in the confusion over Pres. Eisenhower's health.

The situation here in Washington today is different from that in Denver last fall. At Denver, and later in the President's recovery, reporters got to talk with the President's doctors—asked questions and got answers. And there was little or no public debate among the medical men about what had happened and what was in store. In contrast, now you have controversy about the months ahead.

The President's doctors are optimistic. They see a complete recovery and no reason why a second-term race should not be made.

No importance is attached to the longer hospital stay—longer than the original estimates by a few days or maybe even a week. The official bulletins add up to a normal recovery, with no complications.

The source of the pessimistic stories—stories that the ailment has a pretty consistent habit of recurring—isn't hard to spot. If you want source material, reports by doctors and clinics back through the years, the Democratic National Committee can oblige.

It's working up a record—a brochure. And it has had professional help. Some doctors who disagree with the findings of the President's physicians have written in, telling chapter and verse for information on ileitis. There were names signed to some of the messages. Others were anonymous. The committee saw to it that Washington reporters knew where to look in the medical libraries for the findings of doctors who have specialized in the disease.

So, the press is being "tipped off." You have seen the stories about how the illness recurs and about the frequency. All a reporter has to do is call the Democratic committee and he will get a list of what has been written by the experts and the findings of clinics.

Here's the case the Democrats will make, using medical reports:

Full recovery is a gamble. The expert reports put recurrence as high as one out of every three cases.

The political question will be this: Can this country, a leader in world politics and world business, take this kind of chance? The Democrats point out that the President himself is aware of the reaction in world capitals and market places to any illness of the U. S. Chief of State. And the idea that the ailment is not something that developed suddenly, but over a period of years, will be driven home.

The Eisenhower side is hard to get. Doctors present at the operation are not available to reporters. After the one briefing, they closed up—became unavailable. Subsequent statements have come through the White House press system, directed by Jim Hagerty.

Guessing still is that Eisenhower will run again. A relapse could change the picture ahead of the GOP convention Aug. 20. But up to now the party is betting everything on a second term. Some hedges

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
JUNE 23, 1956

will be made—just in case. But as of today, it's Eisenhower all the way.

Watch for an even bigger campaign role for Nixon. The early plans cast the Vice-President in the role of a traveling bush beater, while the top man on the ticket, Eisenhower, used TV. Now, the prospect is that Nixon will get top TV billing, too. This is just in case the V-P candidate should have to take over in midstream.

—●—
Stevenson will go into Chicago as the top man on the Democratic side. He doesn't have the nomination in the bag. In fact, his pledges add up to only about half the delegate votes needed for nomination. Still, his commitments are about twice those of any opponent.

Truman will be a major influence. The ex-President is cold on Stevenson—still remembers how Stevenson failed to defend the Fair Deal and, in fact, campaigned on the line that he, too, would clean up the mess in Washington. But Stevenson backers figure they still will finally get the backing of the "squire of Independence" by showing they've got the winner.

Kefauver will have a key role. Neither he nor his backers have any idea that he can get the nomination. Losses in Florida and California settled this. But he does have some delegate strength. And while he won't talk about second place on the ticket, some of his backers do. They talk mostly in terms of Kefauver as the Vice-Presidential choice with Stevenson. Such a ticket would have strong party appeal. The talk is taken seriously.

Harriman needs a Stevenson-Kefauver stand off to win. The big worry among his managers is that it might not develop. So, the play for delegates is being stepped up on all fronts.

Note the show of strength in the West—the effort to pull in farm strength for the Manhattan man.

Charles Brannan of Colorado is the pacer. He's the former Truman Agriculture Secretary. He's linked with Harriman now, and his efforts to work up farm discontent go beyond his own state. He's the general counsel for the Farmers Union, the New Deal farm crowd that draws on the big industrial unions for advice and help in election years.

Behind this Harriman-Brannan axis is an old thought: If the city labor and the farmers could be tied together politically, they could dominate U. S. politics. It's probably true, as an idea. So far, no one has been able to bring it about. Roosevelt did get the votes at one time. But he wasn't able to form a staying alliance.

—●—
Chances of a session-end tax cut are dimming. Some Democrats in Congress have kept the idea alive, arguing that the \$2-billion or more surplus in sight for the fiscal year ending June 30 should at least be shared with the taxpayers. But Treasury Secy. Humphrey did a selling job this week. He made it clear that a close ceiling on the national debt limit depended on keeping present tax rates, at least for the time being. The House Ways & Means Committee, which must originate all tax bills, bought the argument. That will make it hard for the Democrats to turn around later and vote for a tax cut.

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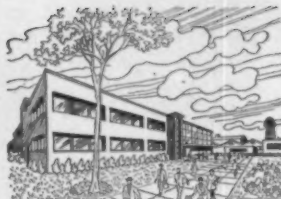
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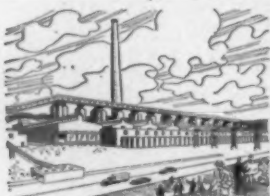
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Mobay Chemical Company
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Vanadium Corporation of America
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Kaiser Aluminum & Chemical Corporation
Ravenswood, W. Va.

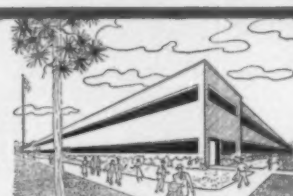
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Lynchburg, Va.



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Ford Motor Company
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WHEELING ELECTRIC COMPANY

Science and industry in Europe are beginning to get together U.S.-style, with applied research getting some of the play once reserved for basic studies.



Researchers Come Down to Earth

Something new—and very American—seems to be popping up in European research circles, and the picture above serves as a pretty good symbol of it.

On the left is Piero Giustiniani, managing director of Italy's huge Montecatini chemical combine; with him is Prof. Guido Natta of the Milan Polytechnic Institute, inventor of the polypropylene process that is rocking the U.S. plastics and fiber industries (BW—May 12 '56, p127).

There would be nothing odd about the two being photographed together in New York as distinguished visiting Italians—Giustiniani in quest of business, Natta on his way to tell a learned society about his latest effort to dig up some basic taproot of the universe.

But the point is that Natta is on more than an esoteric errand this trip. He's scheduled to appear at several scientifically important meetings of the Gordon Research Conferences in New Hampshire. But while in the U.S. he's also serving as a prized commercial associate of Giustiniani, a key man in negotiations with U.S. companies for the use of the Montecatini patents on Natta's discoveries at the Milan Institute.

• **Ivory Tower**—It's still strictly a rarity to see a European scientist like Natta—or Karl Ziegler, the German who invented the low-pressure polyethylene process and found himself dragged into the world of affairs—having any strong business ties. But some observers feel that there is a growing trend abroad toward a closer union of research and industry.

Traditionally in Europe the very word "research"—unless trailed by quali-

fiers—means pure basic studies of the sort linked to such names as Newton, Faraday, Pasteur, Fermi, and Bohr. But in the U.S. in the past 20 years an entirely new meaning has grown up; research, unless qualified, means industrial research and development, often including wholly commercial product improvement—work with which the European researcher would hate to be associated.

As a generality, in the past, the European scientist dreamed up a line he wished to pursue, and got himself some sort of state grant to finance it. What little financing came from industry was likely to be in the hope that the basic studies would collaterally help a commercial product. The American, on the contrary, for some years has more and more frequently been commissioned by industry to work pretty directly on product improvement.

• **OEEC's Work**—Europe got a slight glimpse of the U.S. approach after World War II, when the Organization for European Economic Cooperation picked up the burden of applied research for the ravaged continent. OEEC helped industry to modernize, and it set up a number of research projects. Europe began to see the advantages of U.S.-type technology in the jet and atomic era. Industry, long stand-offish, is beginning to pick up some of the research burden. One result: Montecatini's exclusive rights to Natta's work on isotactic polyolefins.

The difference between the research approach in Europe and the U.S. has helped produce an extraordinary divergence in the researchers themselves.

Typically, the American looks like

any non-scientific compatriot in the \$10,000-\$15,000 income bracket. He works regular hours, with a team of his equals, and goes home in a newish car to a suburban house full of TV and appliances.

His lab, like his home, has every comfort and mechanical convenience, frequently even air conditioning.

• **The Loner**—The European is a very different kettle of science. Normally he's a rather lonely and towering figure in his field; a university professor, in his 50s, with a reputation built before the war and a strong attachment to the earlier methods. His salary may be only half that of his American opposite number, but it still compares with that of upper-level government officials in his country.

He lives in a city apartment, walks or bicycles to the university, toting a briefcase that very likely contains his lunch. In the older buildings, his lab may be as cold as outdoors, except close by the stove. His equipment, by U.S. standards, is usually scarce and obsolete. Indeed, his projects must be chosen with loving care, tailored to the materials and equipment that are available.

• **An Autocrat**—He may be shivering, and he may be hampered by poor equipment, but he is still the ruler of a little kingdom that the American, the team man, will never possess. Chances are he has a dozen or so assistants, meagerly paid, helpers whose names will never appear on the final report. He and his retinue work in an atmosphere of considerable formality.

Apart from the dubious boon of autocratic power, the European researcher has at least one other advantage. Until



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GIUSTINIANI supports the new American look in industry-research relationship.

very recently, deadlines have not haunted his activities; Europe still rates a single major contribution as well worth a lifetime of effort.

• **Signs of Change**—So sharp is the contrast between the research approach in Europe and the U.S. that it's easy to spot such maverick performances as that of Prof. Natta. But to what extent the exceptions may indicate a trend toward industry-sponsored research is clouded by numerous factors. For one thing, the whole pattern of research methods on the Continent is too much a crazy quilt to permit accurate predictions. And both political and economic conditions, in constant shift and flux, add a fine element of confusion. However, some country-by-country generalizations can be risked.

West Germany. In research, as in so many aspects of life, the West Germans are rapidly scrambling back to their pre-war position of eminence. Their greatest progress from the standpoint of scientific research, however, is on the basic side. Most research continues to be done in the universities, technical colleges—and in such institutes as the Max Planck Society Institutes, by which the chemical trade as a group tries to bridge the gap between academic and industrial research.

In these setups, the researchers have a freedom greater than could be found in company labs. Most of the work is financed by grants, much as in the U.S. but the actual planning of the projects is done by the scientists, and not by the companies that provide the money. This, of course, leads to some duplication of effort, as it does in other European countries. But the Germans think their system works, and so take the bitter with the sweet.

Italy. Research south of the Alps is



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NATTA plays a dual role—that of classical scientist as well as commercial consultant.

handicapped by the feeling of most companies that they have neither time nor money for extensive research programs; they're too busy frying the other fish of day-to-day competition. The larger companies show signs of guilt over this attitude, but only a few notable exceptions are doing anything about it.

Middle-aged men—the backbone of European science as well as industry—in Italy have been driven into passivity by 20 years of dictatorship, war, and depression. This widespread bankruptcy of initiative has left the field of research pretty much to the universities and the centers of the National Research Council.

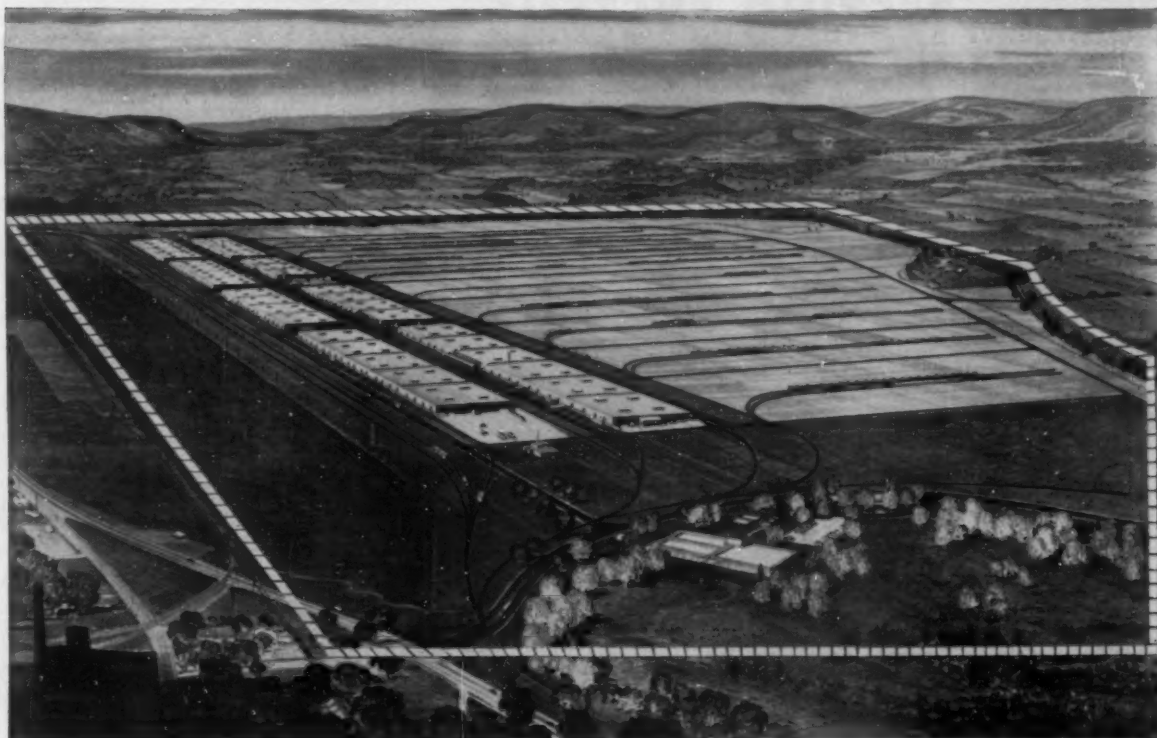
Formal U.S.-type research contracts are rare. Usually, a professor gets a grant to meander down some scientific lane of his own choosing, with no requirement of results, or even progress reports. This gives the Italian researcher the freest rein in Europe, usually to pursue the basic rather than the practical. This in turn means that a company will think twice before putting up money when any tangible benefits are likely to be a matter of luck.

Most Italian companies look with ill concealed alarm at the few giants such as Montecatini and Fiat that maintain sizable labs of their own.

France. Company research departments in France are also confined to a few mammoths. Pechiney has a huge chemical research center outside Paris; Shell, Saint-Gobain, and the Compagnie Generale de TSF (electronics) have research facilities that would be easily recognizable by U.S. standards.

Smaller firms have begun to gang up in joint research facilities, through the Organization of Corporate Research Centers, which tries to extract contri-

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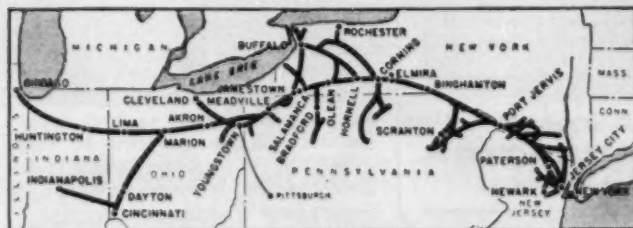
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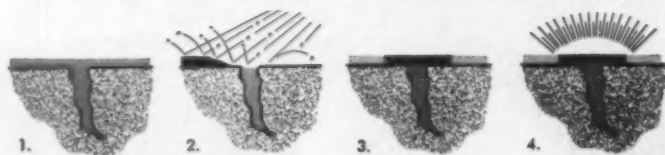
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butions from each company in the industry. About 90% of all outfits are said to stand still for such extractions.

The best example of the collective approach is the Iron Works Research Institute, whose \$5-million annual budget permits it to delve into metallurgy, physics, and analytical chemistry. This group approach, a relative novelty in hyper-individualistic France, indicates that industry has finally realized that the solo method is just not good enough to keep France going in the worldwide industrial race. The institute freely admits that in the old days there was too much stress on the basic, too little effort to attack those practical research problems that can best be solved by group effort.

The Netherlands. Dutch industry, too, is beginning to realize that pure research is not enough. The Eindhoven labs of the Phillips electronic electric combine bear a growing resemblance to the U.S. labs of General Electric. Phillips has completely segregated fundamental research from developmental work.

At the same time, the Central National Organization for Applied Scientific Research in the Netherlands has boosted its budget nearly 75% over the four years.

Belgium. The Belgian government is also apparently well aware that something must be done to encourage and coordinate the country's research efforts. Two separate organizations (the National Scientific Research Board and the Institute for the Promotion of Scientific Research in Industry and Agriculture) are now in operation trying to promote a closer liaison between those with research facilities and those who need its ministrations.

• **The Stragglers**—The rest of Europe is lagging far behind these leaders in the industrialization of research. Tail-end Charley in the research parade is Spain.

Rugged individualists all over Europe see signs of lunacy in any company that dumps large wads of money into research and development. The idea is that the pioneer company pays all the costs, does the market research, copes with the teething problems, probably mortgages its future at the bank. Then, the skeptic argues, some other company trails along, picks up all the results, and makes most of the profits—without having had to do any of the spadework.

As of today, this point of view is locked in battle with the idea that U.S.-type research is just what the competitive doctor ordered. But there are signs that sooner or later applied research will be admitted to equal partnership with basic research in the drive toward technical progress in Europe. **END**

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On the Trail of a Virus As Villain in Cancer

Is human cancer caused by a virus? No one knows for sure as yet. But consensus among cancer researchers across the U.S. is that strong evidence now piling up points to viruses as the causative agent of human cancer. Some medical men now predict that proof could come within the next few years.

The theory of a virus-cancer link, of course, isn't new. As far back as 1903, a French bacteriologist named Amédée Borrel suggested that cancer might result from the action of viruses. He wasn't taken very seriously, because no cancer could then be demonstrated experimentally to result from inoculation with a virus—and, anyway, the suggestion was alien to the thinking of the time.

Since Borrel, a handful of scientists have provided eloquent and persuasive experimental evidence for the acceptance of viruses as the causative agents of cancer. But since their experiments

were conducted upon animals, cancer investigators have tended to disregard their testimony.

• **Impetus**—Now, however, there's a new surge of interest in the virus theory—thanks largely to the efforts of 1946 Nobel prize winner Dr. Wendell M. Stanley (picture), of the University of California's virus laboratories.

Stanley has a reputation not only as one of the world's leading viral biochemists, but is a very cautious and careful man—not one to "shoot his mouth off without ample provocation." So scientists everywhere take seriously his recent statement at the third National Cancer Conference that the time has come when research should assume that viruses are responsible for most, if not all, kinds of cancer. Coming from him, they greet it as "enlightened skepticism which can't be ignored."

• **New Answers**—A number of new points that are coming out of current

experimentation and reasoning on the virus-cancer theory answer former objections to it—and these points could turn the tide of research in a hurry.

Cancer, medical researchers agree, is basically a problem of growth. Something happens within the individual cell that causes it to multiply in a very disorganized manner at a very rapid rate. The result is a cancer.

But in most virus diseases (polio and influenza, for example), the virus has just the opposite effect—it produces disease symptoms that kill or damage the cells. That's why scientists have found it hard to believe that there were other types of viruses that would cause cells to multiply.

In earlier experiments with animals, cancer investigators found that cancer could be produced in one animal by inoculating it with cancer cells from another animal. But the viruses obtained from these animals—and believed to be cancer viruses—showed in size and gross chemical composition, no characteristics setting them off from other viruses. What, then, could it be that distinguishes cancer viruses?

• **Question of Rate**—Stanley doesn't pretend that the complete answer has been found. But he thinks that recent experiments at California Institute of Technology, using a relatively new scientific tool known as tissue culture, throw new light on the subject.

Cal Tech scientists removed whole cancer cells from afflicted chickens, and studied with electron microscopes the rate of reproduction of viruses in these cells. In polio, infected cells may produce 1,000 virus particles in a few hours. But the chicken cancer cells produced virus at a slow, but constant rate.

This simple quantitative finding may tell the story. A polio-infected cell, having to divert all its metabolic machinery to virus production, may be unable to carry on its own functions, and so die. A cell that has to produce only a single virus particle each day may have its normal metabolism upset—perhaps to the extent of being liberated from the normal regulating mechanisms of the body—and may thereby become cancerous, but not destroyed.

• **Crumbling**—Stanley believes that other long-held arguments against the virus-cancer theory are crumbling, too.

The anti-virus school has argued that if cancer viruses existed in humans, they would long ago have been found. But, says Stanley, literally dozens of hitherto unknown viruses have been discovered in the past year or so—leading to the strong supposition that many more are still undiscovered.

Another anti-virus argument has been that there's absolutely no evidence that causative agents of cancer are contagious like polio or influenza virus. Work now going on under Robert H.



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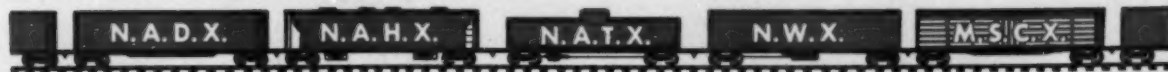
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Huebner and others at the National Institutes of Health strongly indicates there may be a simple answer as to why cancer—if it's caused by a virus—is apparently not contagious.

Huebner found that injections of APC (Adenoidal-Pharyngeal-Conjunctival virus) into cervical cancerous tissue brought about disintegration and disappearance of most of the cancerous mass (though antibodies developed to prevent destruction of all the cancer cells, leaving a residual cancer). This points to the possible presence in normal human cells of substances that check cancer virus, prevent contagion.

The fact that some cancer cells are destroyed by infection with certain viruses has another important meaning: It should be possible someday to develop viruses that don't affect normal cells but do destroy cancer cells. Work of this general nature—still in its infancy—could be the brightest spot on the cancer horizon.

• **Neat Tie-in**—The virus theory of cancer won't be easy to nail down tight, though. Some aspects of the origin of even some very thoroughly studied viruses are still obscure. And most of the known cancer viruses (found in fowl) are usually produced in such small quantities that they can't be readily demonstrated by physical methods—even by the electron microscope.

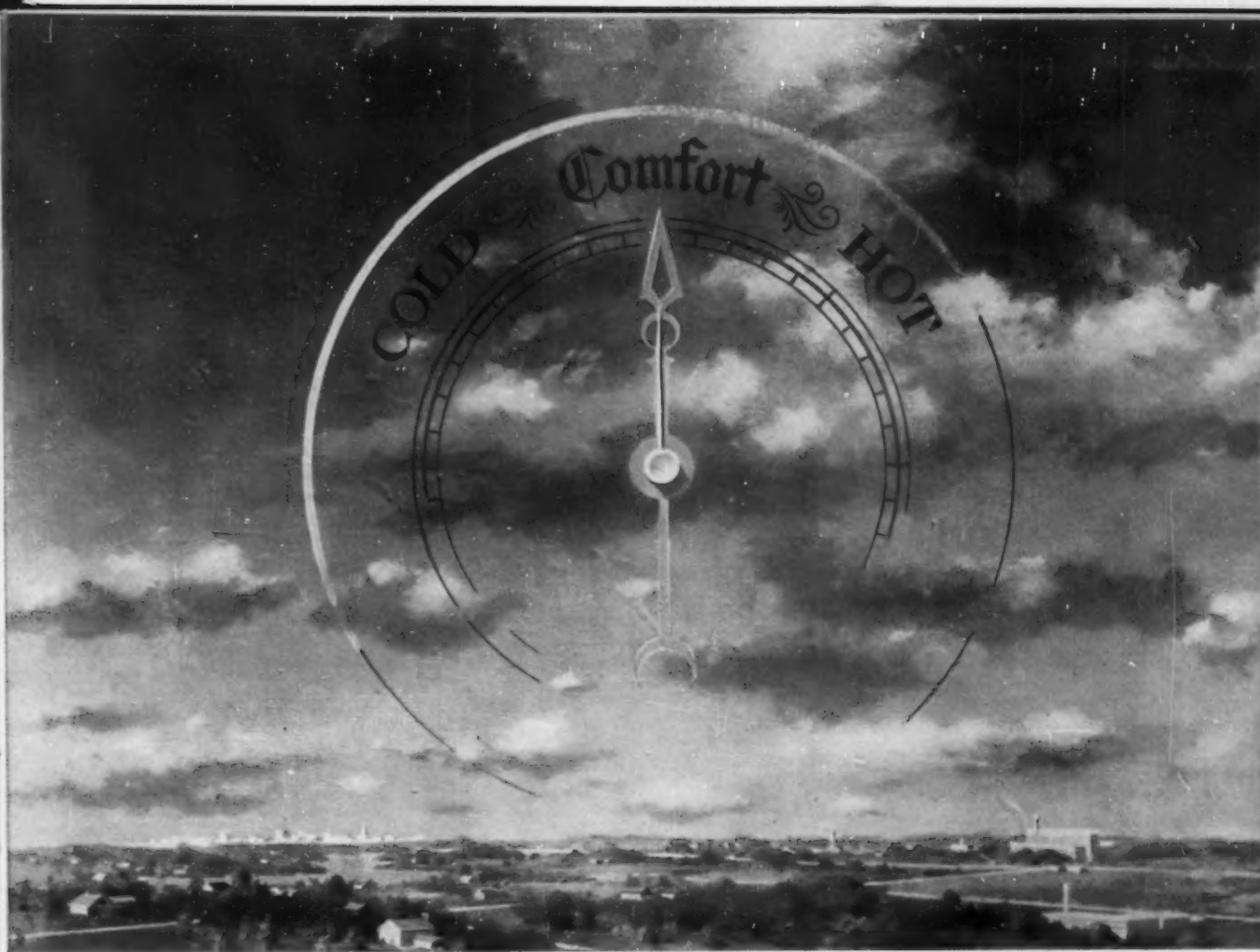
The virus-cancer theory, however, ties in neatly with many recent findings in research on carcinogens—or substances that produce or generate cancer. Suspected carcinogens range from hundreds of different chemicals to physical agents such as ultraviolet or X-irradiation.

It has long been known that cancer could result from prolonged exposure to coal tar—that observation, in fact, set off the extensive searches for particular compounds as cancer villains. But most researchers assumed that the carcinogen caused changes in the cell itself. Only recently did a growing band of scientists start to rally around the idea that the chemical carcinogen could be working, not by affecting the genetic apparatus of the cell, but by activating or causing a mutation in a virus already in the cell.

This view ties in with the observation that leukemia and skin cancer may result from excess radiation exposure at a relatively low level over a period of years.

Cancer resulting from radiation may show up immediately or up to a few years after exposure.

The answer to this seemingly contradictory situation may well be that irradiation in certain cells of the human body, under certain conditions, causes a mutation in a latent virus—which turns up in the patient as a cancer. **END**



Climate makers forecast multi-billion-dollar business

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Climate control is also vital to the manufacture and warehousing of many products: from candy, cameras, and cigarettes to textiles, chemicals, and ammunition. Air conditioning helps precision equipment maintain close tol-

erances, control bacteria growth in laboratories, and retard food spoilage.

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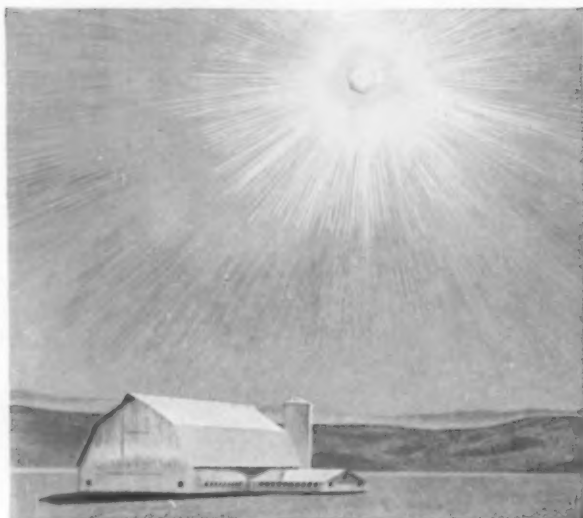
Abroad, many firms do a big climate-control business with the help of "on-the-scene" banking services from First National City's 66 Overseas Branches, Offices, and Affiliates.

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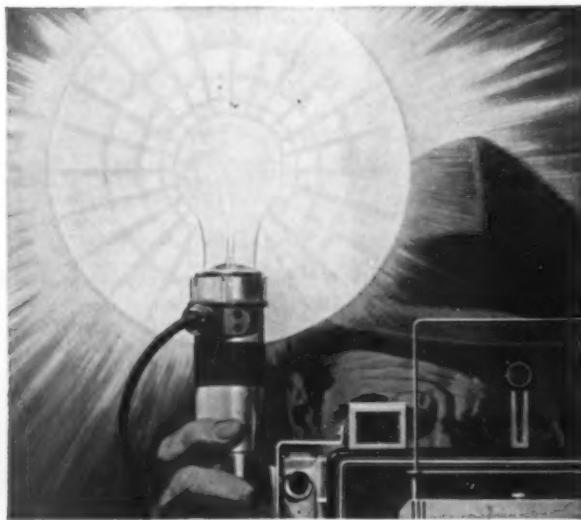
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9 good reasons to

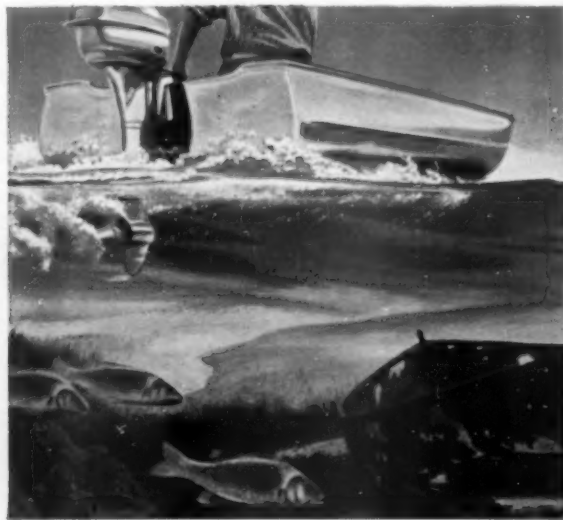
EIGHT highly useful properties of aluminum are illustrated on these pages... eight good reasons why this modern metal has taken the place of other materials in thousands of products—making them better and cheaper. But there's a *ninth* good reason why more manufacturers now think particularly

of Kaiser Aluminum as a dependable source of supply.

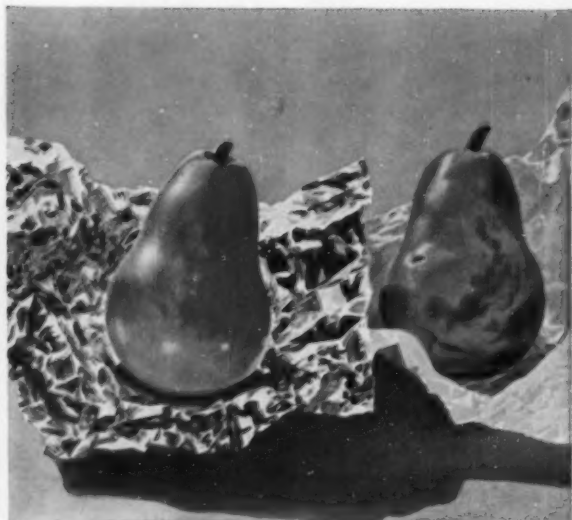
Kaiser Aluminum has led the industry in bringing more aluminum to American manufacturers. We now produce close to 30 per cent of all the primary aluminum that is made in this country... and we are continuing to expand.



Reflects light Highly polished Kaiser Aluminum reflects over 80% of the light that strikes it. Ideal as reflector for lamps, high-powered lights, movie screens.



Resists corrosion A thin, tough film of aluminum oxide forms *naturally* on aluminum, protects against corrosive attack. Even if damaged, this film immediately re-forms.



Protects quality Used for packaging, Kaiser Aluminum Foil blocks heat and light rays, keeps out air, seals in moisture . . . preserves original freshness and flavor.



Light and strong Kaiser Aluminum weighs only about one-third as much as steel, copper or brass. Yet it's strong and resilient, can take the most rugged treatment.

think of **Kaiser Aluminum**

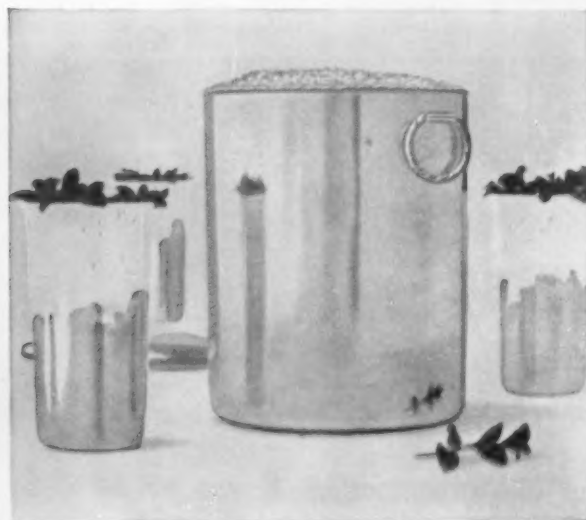
Major new plants now under construction will greatly increase our present production capacity and Kaiser Aluminum will then become the nation's second largest aluminum producer by a substantial margin. We are eager to work with any

manufacturer, large or small, who wishes to hitch his wagon to aluminum, "the bright star of metals." Kaiser Aluminum & Chemical Corporation, Room 200, Consumer Service Division, 1924 Broadway, Oakland 12, California.

STARTS JULY 3RD! A GREAT NEW TELEVISION DRAMATIC HOUR SPONSORED BY KAISER ALUMINUM. NBC, TUESDAY NIGHTS. SEE LOCAL TV LISTING.



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Stays beautiful Kaiser Aluminum's satin-like finish stays permanently beautiful, never to be marred by rust. Aluminum can also be finished in a wide variety of colors.

Bodies and Wheels
for Automobiles,
Trucks, Highway Trailers,
Railway Passenger Cars
and Disc Brakes,
Agricultural Implements,
Laminated Plastics,
Vulcanized Fibre and
Insulating Materials,
Nuclear Energy
Radiography Units,
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BODIES FOR THUNDERBIRD

■ The exciting car that established the 1956 style for the entire line of Ford automobiles, Thunderbird, has a body built to Ford specifications by The Budd Company.

Unlike so much of our automobile activity, building individual body parts—doors, roofs, hoods—and building by the million, for Thunderbird we construct and assemble the entire body structure.

Here is an example of how Budd

engineering, invention, craftsmanship and manufacturing efficiency, created for large scale operations, are applied with equal effectiveness to a car of relatively limited production.

It is this versatility which is constantly adding variety and quantity to products bearing the Budd name which, at a glance, might seem to bear but little relation to each other, but all of which have a common need for the scientific and manufacturing resources that Budd employs in many fields.

The Budd Company

Philadelphia Detroit Gary



A New Breed of Company Has Sprung Up With the Boom

Look at the variety of operations in these companies:

TEXTRON, INC. Radio, Radar, and Electronics, Extruded Aluminum, Jute Bagging, Veneer and Plywood, A Passenger Steamer, Iron and Steel Castings, Forged Metal Parts, Chain Saws, Generators, Pumps, Polyethylene Film, Vibration Testing Equipment

PENN-TEXAS CORP. Coal, Machine Tools, Radio & Electronics, Materials Handling Equipment, Insulated Wire & Cable, Power Shovels, Colt Firearms, Gas & Oil Properties, Aircraft Parts, Merchant Ships, Plastic Packaging

WARD INDUSTRIES CORP. Vacuum Cleaners & Metal Wall Partitions, Laundry & Dry Cleaning Equipment, Passenger & Merchant Ships

GLEN ALDEN CORP. Coal, Air Conditioners, Fire Trucks

PHILADELPHIA & READING CORP. Coal, Cowboy Boots, Underwear

MERRITT-CHAPMAN & SCOTT CORP. Shipbuilding, Marine Salvage, Industrial & Heavy Construction, Chemicals & Building Materials, Rolling Mills, Truck Trailers, Paints, Heavy Equipment

BOWSER, INC. Gasoline Pumps, Liquid Metering, Filtering & Dehydrating & Storage Equip., Refrigeration Equip., Incinerators, Hardware, Coin Counters, Magnetic Filing Systems, Electric Condensers & Capacitors, Automatic Parking System

Is This the Coming Thing?

The companies above are just a few samples of a kind of corporation that is sprouting up with the postwar boom. Essentially they consist of a host of smaller companies tucked under one corporate umbrella. They muster a wide diversity of product lines, with no apparent logic or relation between them—and they have appeared so suddenly that businessmen still have no name for them. For want of a better name, call them polyglots.

There are plenty of them around. A run through the listings at major stock exchanges turns up at least 40, and each month the papers carry accounts of more companies edging into new pastures.

It isn't just their diversity of product line that makes the polyglots peculiar. Today plenty of companies are diversified to a certain extent, but most of them got that way gradually in a logical spreading out of their operations, and are still largely in one line of business or industry. Food Machinery & Chemical Corp. is a good example; and so is International Harvester Co.

The polyglots, on the other hand, are not only highly diverse and very new, but don't stick predominantly to

any one line. They blossomed forth almost overnight in response to:

- Management's double-action yen—for diversification and for growth.
- The large amounts of confidence and cash in boom times.
- The indirect pressures applied by existing antitrust and tax laws.
- The development of management controls and techniques for handling decentralized operations.

I. Long Life or Short?

As yet the polyglots haven't stood the test of time and their very newness raises questions as to how sound they are—whether they will last, or whether they are short-lived children of the boom.

• **Overextended**—Consultants who specialize in diversification have been laying bets that some of the polyglots would run into rough weather. This week it looks as if they will be able to collect. Sydney Albert, principal owner of Bellanca Corp.—its operations range from machinery rebuilding to pipe fitting, plumbing supplies, aircraft parts, ships, shoes, uranium, and precision gears—recently overextended himself in the stock market.

When the market dropped, Bellanca stock slid to a point where at least 350,000 shares Albert had pledged as collateral for other investments had to be sold. This sent the price down even lower, a flood of shares was unloaded, and now there is talk of new money taking control.

• **Second Thoughts**—Even though it was Albert's private investments—not the firm's operations—that stretched Bellanca to the sagging point, its rise and fall is going to give a lot of investors second thoughts on the polyglots.

Bellanca's problems are the most dramatic among the group, but some others haven't been doing too well either:

• **Penn-Texas Corp.** has been riding out a strike on a major customer, murmurs in Wall Street that its cash and credit had dropped sharply, a switch in its last quarterly dividend—from cash to stock and a fall in market prices.

• **Merritt-Chapman & Scott Corp.**, which used to be in radio equipment and appliances along with its many other fields, has shucked off these properties as unprofitable (BW—Mar. 17'56,p36), has also taken a drop in

the market, and has cut its cash dividend.

• **Brighter Picture**—Developments of this sort might make things look pretty bleak for the polyglots. But on the other side of the coin, such companies as Textron, Inc., which is as polyglot as they come, have been doing very well.

II. What They Gain

Actually, polyglots offer plenty of advantages—growth, perhaps an escape from business-cycle profit squeezes, and the development of regular income.

• **Even Spread**—Out of the polyglot situation you can get the normal advantages of an increase in size—such as the ability to marshal capital, credit, engineering talent, research facilities, or management staff services in a way that no one small company could afford alone.

There's also the added advantage of a new stability. Reverses or bad guessing can send an independent company to the wall. The same thing can cause a particular division in a diversified company to lose money—but the corporation itself can stay healthy enough to carry the loss operation over the hump.

Again, if the ideas of such economists as Harvard's Sumner Slichter on rolling depressions and staggered cycles for industry are correct, the polyglots may be the company of the future—because they tend to spread evenly over a number of industries with no special accent on any particular one.

• **Legal Impetus**—But these aren't the only pressures for creation of polyglots. The present boom, existing antitrust laws, and the tax laws tend to make merger or acquisition, usually in an unrelated line, the best way to quick growth.

Historically companies have tended to merge during boom periods. These are the times in which both the money and the necessary confidence abound. But until recently, those that wanted to grow in a hurry have tended to join up with similar outfits in the same business, as the easiest and least risky way to expand. It brings a minimum of new problems, and gives obvious advantages in cutting overhead or consolidating plant.

But now tighter restrictions on mergers have been written into the antitrust laws. Corporations are afraid to get too large a share of a market for fear of being charged with monopoly or restraint of trade. Hence, to maintain growth they turn to other fields.

The tax laws give a push toward mergers, too. Presently, corporate income taxes are at 52%. A company with a tax-loss carry-forward on its books can use that to good advantage

in acquiring profitable and diverse companies (BW—Jan. 14 '56, p41). What's more, many small companies that find themselves hard put to it for growth capital welcome such an association.

• **Missing Link**—With all these advantages you might expect polyglots to have sprung up quite a few years ago. But the chances are they couldn't have lasted then. A large diverse organization would have fallen apart of its own weight. Polyglots are an offshoot—still experimental, and certainly incomplete in some cases—of new organization concepts. And business has developed both methods for maintaining widespread and diverse operations—through tight accounting and control, growing use of computers, and the like—and the professional managers to control them.

The polyglots, looking at existing large-scale, multiproduct companies, note that diversification can work, and that it can develop stability. So they reach for it.

• **Interchangeable Executives**—Also, a new philosophy of general management is starting to catch on. It holds that management skills—at the top—are relatively transferable from industry to industry. This means that top men aren't so hesitant to test a new field as they once might have been. However, overconfidence in this area can create dangers.

III. Hazards on the Road

That there are dangers in diversification, practitioners agree. They point out that diversification by acquisition:

- Takes far more management time than most beginners anticipate.
- Is always a risk.
- Is not necessarily a sign of strength.
- Depends on decentralized operations, which are still a relatively new development.

• **Takes long-term planning and analysis, something that's also very new in most companies.**

• **Time Element**—Proper diversification does take time. Men who have been through the mill agree that, on a rough average, it takes from two to six months per acquisition, with only one out of 40 to 80 contacts reaching the final negotiation stage. Selection and negotiation of acquisitions is a top management job that can't be passed off to subordinates. Even after the acquisition, a certain amount of management time must be spent keeping an eye on the member, because even a "good" management has to be watched and even a good company can go sour.

• **Essentials**—The mere fact that a company diversifies is no proof that it's progressive and in good shape, say consultants at A. D. Little, Inc., Cam-

bridge, Mass. Often enough so that it's no rarity they find would-be diversifiers are either; (1) suffering important internal problems of their own, or (2) in the midst of an 11th hour leap out of a declining industry. However, they note that plenty of others are hard-headed developers working on a well laid out plan. That's something E. Everett Smith, senior partner in McKinsey & Co., New York consulting firm, thinks is basic to the operation.

A company has to know first where it's going, and then how to get there, says Smith, who notes that both decentralization and long-range planning are relatively new. Decentralized operations call for company heads to set policy—the right policy—see that it's understood and carried out. They have to supply staff services as needed, yet keep hands off operations.

And this, says Smith, is a full-time job in itself—a job that even some of the giant so-called "decentralized" companies are still learning how to handle, but one that can be applied by smaller firms, too.

IV. What Kind of Glue?

Most of the experts agree that polyglots can be very stable. But just how stable depends on what kind of creature its architects are trying to build. If it's a quick-profit, capital-gains operation the odds for eventual trouble are pretty high. But those who aim to weld a network of companies into a new and a more effective form stand a pretty good chance of turning the trick.

Each polyglot's holdings are very much a reflection of its chief executive's experience, his ideas, the amount of time he can put into planning, and the special situation of his company. So you can find a whole range of types, from something approaching a holding company to progressively more compact models of a regular operating corporation.

• **Financial**—Textron, Inc.'s control of its 11 or more divisions is largely financial. It tries to pick hot companies with aggressive management, then give them their head (BW—Nov. 5 '55, p140). To keep in touch with operations it uses board meetings, monthly statements, pro-forma forecasts, a special officer who meets with division heads at least three or four times a year, and a management study of each division at least once a year by consultants.

• **Loose Reins**—Chesapeake Industries, Inc., which grew out of a holding company, also keeps fairly well out of the operations of its subsidiaries. So does Philadelphia & Reading Corp. Chesapeake, whose subsidiaries are in banking, advertising, utilities, film processing, gas and oil, and real estate, keeps



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the feel of its companies through board meetings, financial reports, and a handful of parent company officers who are nominal members of subsidiary staffs.

Benjamin Graham, chairman of Philadelphia & Reading Corp., with only three subsidiaries—coal, cowboy boots, and underwear—to worry about, doesn't think formalized management controls are necessary. "Besides," he says, "we've taken up some very successful companies. In order to get them we had to promise the managers a virtually free hand."

This last point is fairly common, and an important reason why operational control of polyglots is often loose. Usually a company is brought in with promises of a loose rein, and as long as it does well and management produces, an investment-oriented polyglot is happy enough.

• **Closer Knit**—A number of other diversifiers tend more to be operating companies. Look at American Machine & Foundry, which produces bicycles, cigarette machines, bowling equipment, atomic reactors, and electronic gear. These companies besides offering their divisions financial, legal, and public relations talent, can supply engineering, research, advertising, and even some marketing services.

V. What About Government?

Both the Federal Trade Commission and the Justice Dept. see pretty much eye to eye on conglomerate or polyglot mergers. Both agree that polyglots, however defined, are—like all other mergers or acquisitions—subject to examination and attack under the antitrust laws. Up to now, though, they haven't been able to figure out a way to attack them. It's pretty hard, they say, to bring companies to court if their merger:

- Doesn't eliminate competition between the two companies.

- Doesn't deprive anyone of any raw material.

- Still leaves plenty of giants around for the mergees to compete with.

- **Wanted**—There's no doubt that government antitrusters would like a good polyglot case to try out—along one of these lines:

- Where a very big company moves into a small-company field, and by virtue of its financial resources can do pretty much as it pleases.

- Where two big companies in their respective industries unite—especially if one of them is "excessively" large in its field and has not been attacked before.

- Where a merger is conglomerate but permits the two companies to use an identical distribution system, thus possibly harming independents who previously handled one of the lines. **END**

*the gas truck
that does
more work
because
it spends
more time
on the job!*

BAKER "FG"



here's why...

Every step in the design of the new Baker "FG" gas fork truck was aimed at this end result: Maximum dependable and efficient performance, and longest life. The power plant, for example, is a heavy-duty gas engine designed expressly for rugged industrial truck service, power rated to truck capacity and geared to operate at optimum RPM. Compact rigid power train without troublesome universal joints...split clutch housing for better accessibility...single oil supply for entire assembly...full-floating, self-energizing, self-equalizing hydraulic brakes with one-point adjustment...these are a few of the features that mean *more time on the job*.

Our confidence in the "FG" is backed by a full 6-months' warranty—the only gas truck offering this protection. Capacities up to and including 6000 pounds. Write for specific bulletins.

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In Management

• • •

Factory Workers and Managers

Tend More to Use First Names

About 90% of U.S. industrial workers call their bosses by their first names. That's the word from E. I. du Pont de Nemours & Co., after a survey on the subject. An even higher percentage of managers call their employees by first names, says du Pont.

It's all part of a growing informality in business relationships, says du Pont. A major factor in the trend is the rising ratio of supervisors to supervised. Today, there is about one supervisor for every eight workers; 25 years ago, it was about one for 15. The result: closer working associations and no excuse for a manager's not knowing the names of his employees. It's also part of the growing awareness of the importance of human relations in achieving productivity.

American companies have three or four times as many management people as foreign companies of comparable size—and three or four times the output per worker.

• • •

They're Fighting Over Foremen:

Are They Management or Labor?

Everybody seems to love the foreman. Labor claims him as its own, management says he belongs in an executive suite. The 70,000-member National Management Assn. (until recently known as the National Assn. of Foremen) says foremen are management men. But the Foremen's Club of Columbus (Ohio), Inc., with a membership of 1,000, just withdrew from the national group because it disagrees with mixing foremen with management.

The Columbus group says NMA should be composed predominantly of foremen, but only 56% of its membership falls in this category; the rest is in higher levels of management. An NMA spokesman says the withdrawal was influenced by a personal dispute between past and present leaders of the organization.

• • •

Bosses Lack Physical Stamina

To Cope With Strains of the Job

Can business managers hold up physically under job pressures? That's the question asked by Sports College, a non-profit group to promote athletic fitness in the U.S. and Canada. The answer: No.

Sports College tested 49 executives aged 30 to 40 to determine if each man's heart and lungs could take the punishment of daily strains. It used a modification of the Harvard Step Test, in which the subject steps up and

down from a 20-in. platform 24 times a minute for two minutes. Then heart action and respiration rate are checked. Only five executives taking the test had a heart beat of less than 100 (par for the course) after the exercise.

Reasons for the poor results, in order: excess weight, smoking, lack of regular exercise.

• • •

Grace Drops Cosden Merger,

Lines Up Behind Texas Gulf

W. R. Grace & Co. completed one oil deal last week as another fell through. Gordon W. Reed, chairman of Texas Gulf Producing Co., announced that Grace will join his company in a joint oil exploration program in Libya. Grace will pay most of the exploration expenses, will get 49% of the net revenue. Grace agreed to purchase 50,000 shares of Texas Gulf at the May 11 market price of \$44.50 a share.

At the same time, Grace and Cosden Petroleum Corp. dropped previously announced plans to merge (BW—Apr. 28 '56, p60). Termination came when Cosden's proven reserves of crude oil checked out below the minimum stipulated in the original agreement. When Grace pulled out of the deal, Cosden stock fell five and one-half points to \$44.25 a share.

If the merger had gone through, addition of Cosden's \$50-million annual sales would have made Grace the fifth largest U.S. chemical company.

• • •

Mightiest With Expense Account:

Not Admen but TV Executives

Who are the last of the big spenders? Ralph E. Schneider, chairman of the Diners' Club, international credit card network, reports television executives run up the biggest bills in first-grade hotels, high-priced restaurants, auto rental agencies, florists, and gift shops.

A just-completed survey of the club's 275,000 members shows public relations men are second in average expenditures. Manufacturers' representatives are the third biggest spenders, and film industry executives come fourth. Admen, front-runners until this year, fell to fifth place. Following in order: wholesalers' representatives, media space salesmen, theatrical booking agents, stock brokers, and literary agents.

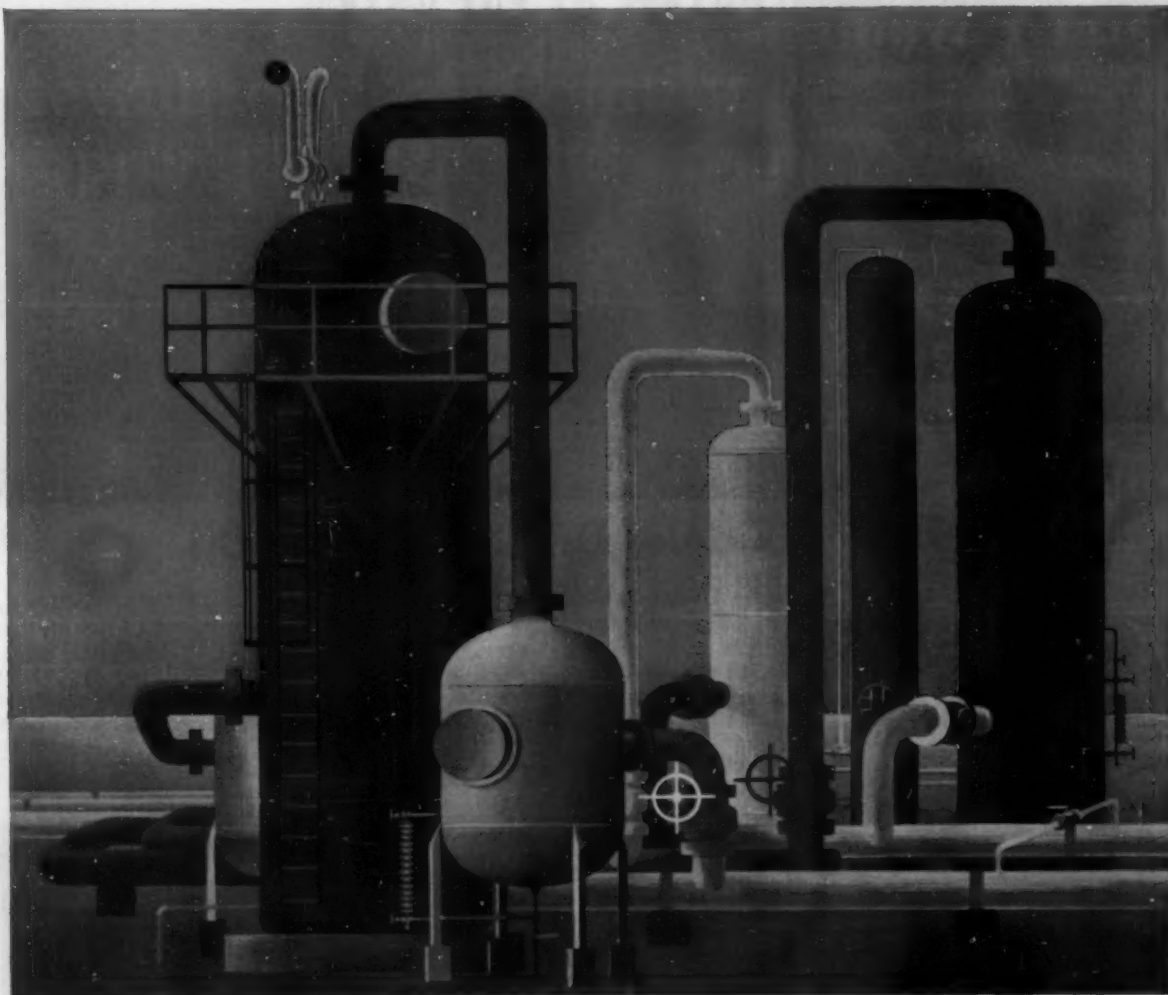
An eyebrow-raiser: Teachers spend more than doctors.

• • •

Management Briefs

General Electric's employee suggestion system, inaugurated 50 years ago this month, has brought in more than 300,000 usable ideas.

No compromise is in sight for the Virginia-Carolina Chemical Corp. proxy fight (BW—Jun. 16 '56, p86). Opposition board nominees met last week with present directors, but neither side gave ground.



Blaw-Knox Cleaners on gas line

GAS SCRUBBED CLEAN WITH OIL **insures customer satisfaction**



Turn on the gas in your home at any time and you get clean, pure fuel that provides steady heat. Yet this gas, as it comes from the well under pressure, contains harmful well dirt, pipe scale and sand.

Unless completely removed, these particles produce a devastating sandblast effect that ruins valves, meters, other pipe line equipment . . . and results in costly replacement bills. What's more, they clog up service lines and pilot lights, with resulting loss of customer good will.

Blaw-Knox Cleaners, designed and de-

veloped for gas line service, scrub the gas with oil . . . remove even the most minute particles. Installed at regular intervals along transmission lines, these oil-type cleaners help utilities provide the dependable, uninterrupted service that makes cooking with clean, pure gas a pleasure.

In many industries, Blaw-Knox engineering achievements are helping to improve products, provide better service and reduce costs. At your request, we'll be pleased to send you information on any of the activities listed below.



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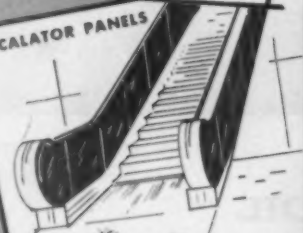
Rugged treatment that must be
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BAGGAGE CAR DOORS



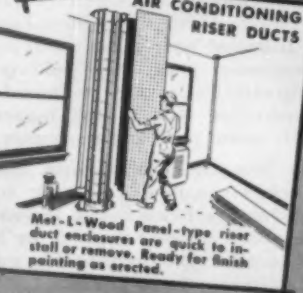
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up service records that keep Car
and Cost Departments happy.

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design a new concept of tough,
attractive escalator paneling.

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Met-L-Wood Panel-type riser
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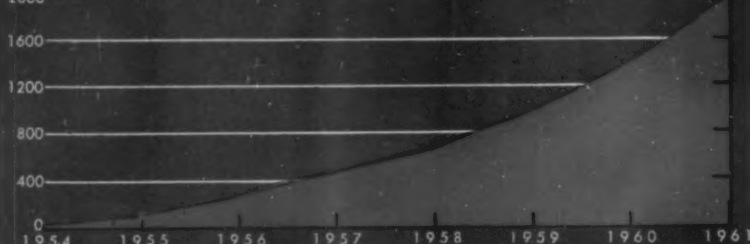
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CHARTS OF THE WEEK

Auto Air Conditioning

Thousands of Units Installed Annually



Data: Society of Automotive Engineers, Ward's Automotive Report.

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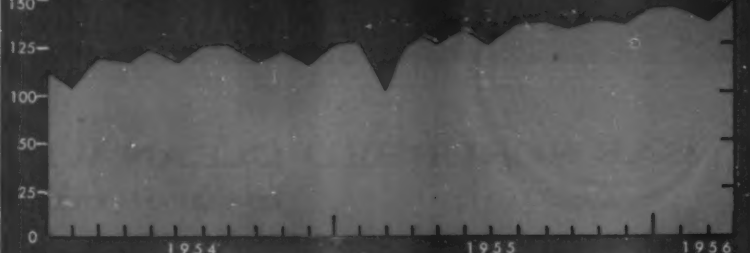
Cooler Driving Coming Up

Air-conditioned autos figure more and more prominently in Detroit's planning. Auto manufacturers are expected to produce some 2-million air-conditioned cars in 1961. This estimate was made at a recent meeting of the Society of Automotive Engineers and reported by Ward's Automotive Reports.

Last year, manufacturers installed air conditioning in 176,000 cars, only 2% of 1955's total car production. It is estimated that this year will reach 300,000 units—not far from 5% of indicated output. If the market is 10-million cars by 1961, perhaps 20% of that year's production will be air-conditioned.

Primary Aluminum Production

Thousands of Tons



Data: Bureau of Mines.

© BUSINESS WEEK

A New Monthly Record

A record 145,895 tons of primary aluminum were produced in March, 1956—12% more than in the comparable month a year ago. The first quarter also was 12% ahead. This sends aluminum off to a good start toward a new annual record as well. In 1955, production established a fourth consecutive annual record as it soared past the 1½-million mark (BW-Jan. 14 '56, p144).

Consumption of primary aluminum also rose to a new high in March—8% over March, 1955. So inventories crept

up only 2,000 tons. Last year the unprecedented demand kept supplies tight and some 450,000 tons scheduled for delivery to the national stockpile between Jan. 1, 1955 and June 30, 1956, were diverted by Office of Defense Mobilization to help relieve the shortage.

Expansion plans announced last year point toward installed capacity of more than 1.7-million short tons for the whole industry at the end of this year, and approximately 2.1-million short tons by the end of 1958.

Based on a case history in Crane's files

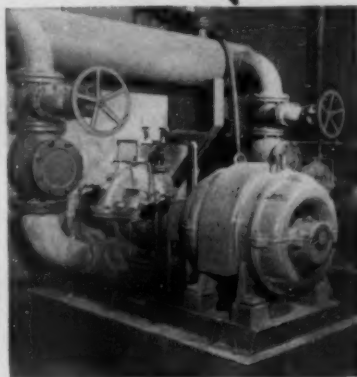
"ever try serving
SOUP in a SIEVE?"



"We were practically at our wit's end with a major problem of flow control.

"We're in the paper manufacturing business. That means we're critically dependent on water—in huge volume. A couple of years ago, we suddenly weren't getting it. The trouble was loss of head in the water intake pumps—caused by leaking check valves in the 8-inch discharge lines. We replaced the valves with new ones of the same make. In a few months they too were leaking. It was like serving soup in a sieve. With our entire operation hinging on these intake pumps, our situation was serious.

"How did we solve it? By switching over to Crane swing check valves. The leakage stopped. So did the loss of head—and the costly maintenance. We were so satisfied with these Crane check valves that we've installed more on a second battery of suction pumps—with equal success."



For the critical job of flow control, modern industry counts on Crane valves and fittings. Careful buyers know the name Crane stands for advanced design, quality materials, expert assembly and thorough testing—with the world's greatest line to select from.

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TOP JOBS

The task of spending the biggest single slice—\$16-billion— of the world's biggest budget is a two-man operation. As for the two Air Force generals in charge . . .

They're Masters of Buying by the

OPERATING BOSS, Air Materiel Command's chief Gen. Edwin Rawlings, is Air Force's top man in management technique.



Billion

This week, with most of the work for their fiscal year completed, the two executives who run the world's biggest buying operation leaned back and reflected on what they have done in the last 12 months.

They found they spent more than \$16-billion on some 1,375,000 different items. Their assets grew to about \$42-billion. Cash profits weren't mentioned, for the real profit of their operation consists of intangibles. The intangibles, in turn, consist of the safety of the nation and the deterrent to war that the \$16-billion produces.

The \$16-billion-a-year operation is the buying, transporting, storing, and maintenance of the U.S. Air Force's equipment. The two men who jointly run the operation are Gen. Edwin W. Rawlings, commanding general of the Air Materiel Command, and Lt.-Gen. Clarence S. ("Bill") Irvine, the Air Force's Deputy Chief of Staff for Materiel.

- **Tough Demands**—Their job is certainly one of the most difficult in the world. For its missions, the Air Force requires scores of infinitely complex weapons systems: The airplanes themselves, the ground-handling equipment to service the planes, a chain of bases around the world for the planes to fly from, crews to run the planes, and a massive array of supplies and spare parts. Each part of each weapons system (and a single bomber is made up of 200,000 parts) must be available to the Air Force at the right time, in the right place, and in the right amount.

Meeting those demands is difficult enough. Complicating the job, though, is the fact that Air Force weapons systems have to be planned in detail three to five years ahead. And almost every weapon is obsolete, surpassed by fresh advances in technology, almost as soon as it's produced.

Beating the difficulties and frustrations inherent in those facts requires some first-rank management technique. But the demands of the job of supplying the Air Force with its \$16-billion worth of equipment each year are even more complex.

- **Economic Impact**—The Air Force must spend its \$16-billion in a way that



POLICYMAKER for Air Force supply, Lt. Gen. Clarence Irvine, Deputy Chief of Staff for Materiel, handles operation's struggles with Congress and inside Pentagon.



Gen. Irvine's hectic life in Washington starts at 8:30 sharp, runs through days with round of meetings, conferences, urgent telephone calls—and a constant consumption of cigars.



PRODUCTION PROBLEMS get early morning airing in call from Douglas Aircraft Co.'s Chmn. Donald Douglas.

CONFERENCE with civilian chief, Assistant Secy. Dudley C. Sharp (left), is first call of Irvine's day at Pentagon.

Story starts on page 70

will give it the best possible return for its money. But since the impact of that \$16-billion on the U.S. economy is so great (probably second only to the impact of the auto industry's business), the Air Force must try to spread the work around, seeing that small sub-contractors get their share of the work, that congressmen and their constituents are kept happy.

And, since each dollar it spends comes from the taxpayers, the Air Force must defend the spending of every dollar many times before it actually pays the contractor and before he delivers the goods.

Hanging over every decision that the Air Force's supply arm makes is the requirement that every combat plane be kept constantly at maximum readiness.

I. Splitting the Task

Any one man running an operation under all those conditions would fairly seem to be a fit candidate for a straight jacket. And, at first glance, it would seem that putting two men jointly in charge of the operation could lead only to conflict and disorganization.

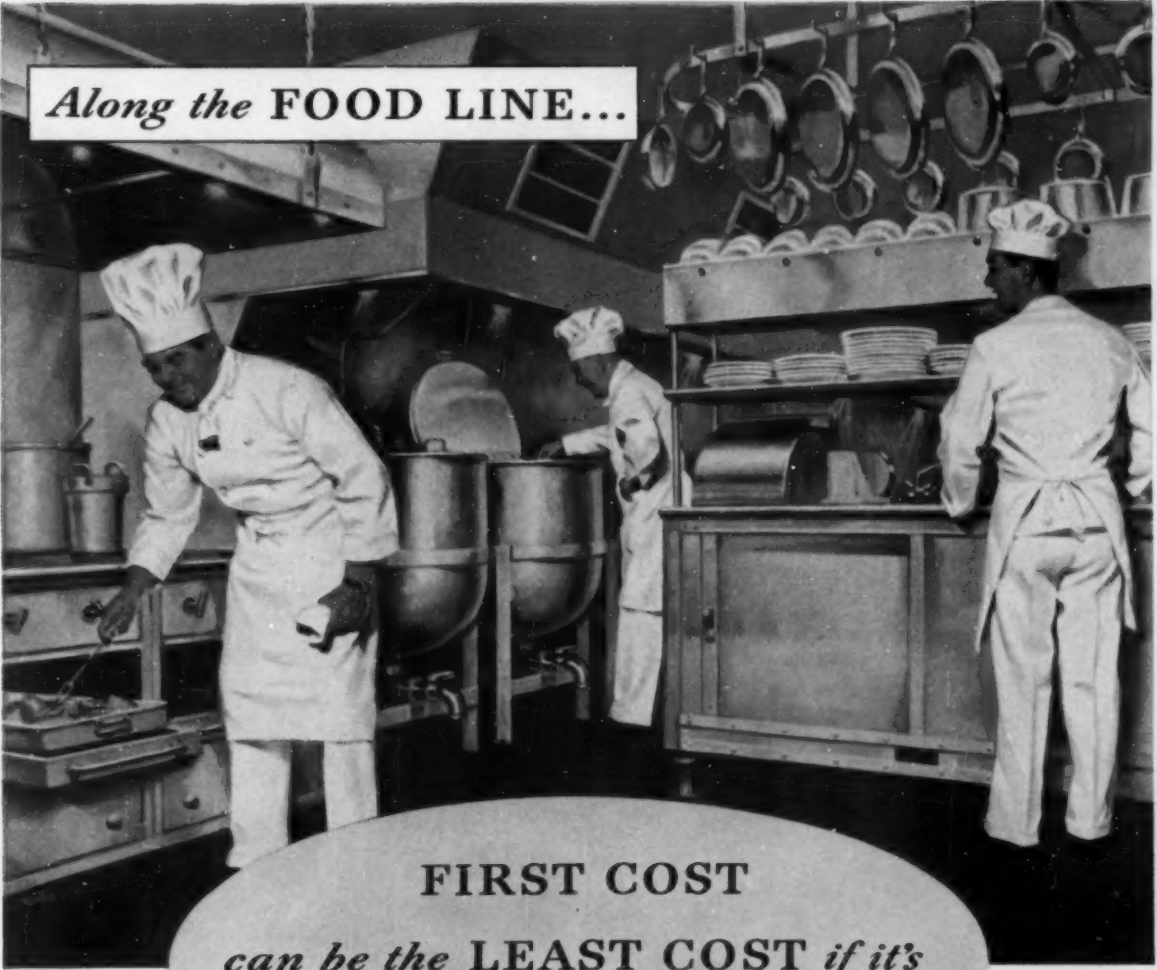
The system's two-headed arrangement



MAINTENANCE BRIEFING—which shows current state of millions of dollars of Air Force equipment—is regular Irvine chore.



UNSCHEDULED MEETINGS, like this one in Pentagon corridor, frequently bring urgent information to Irvine.



Along the **FOOD LINE...**

FIRST COST
can be the **LEAST COST** *if it's*
the **LAST COST**

No material is more at home around food than AL Stainless Steel. And that's not just because stainless is perennially good-looking, and so easy and inexpensive to clean.

Basically, it's because stainless steel equipment is the most economical you can buy. It stands up so much better—lasts so much longer—costs so much less to clean and maintain—that it actually saves you money in the long run. First cost isn't the whole story, you know. It's the long-term, over-all cost that counts, and no other

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uncompromising standards of workmanship to get your cargoes moved on schedule, at the lowest cost per mile.

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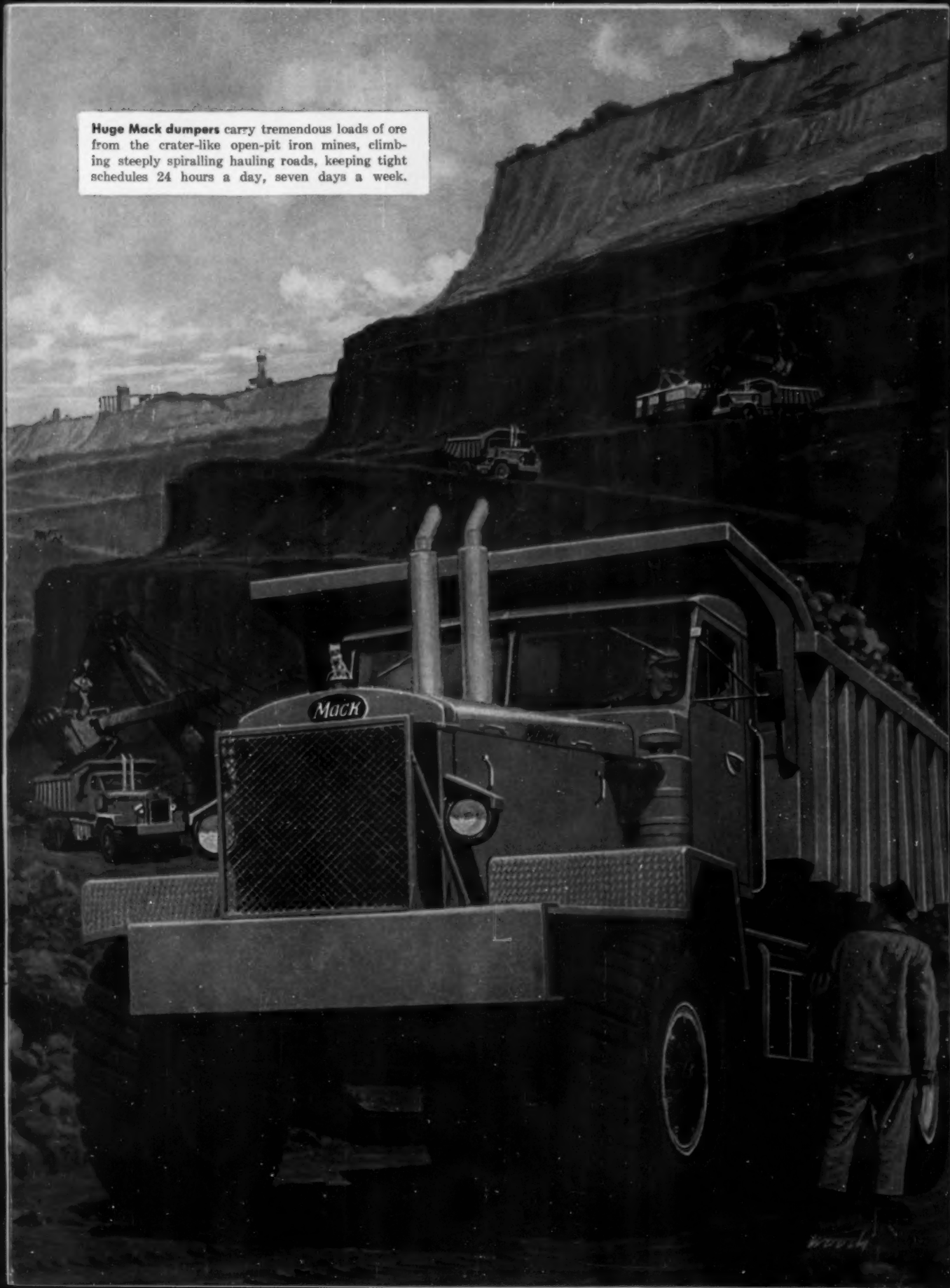
BUSES • FIRE APPARATUS

At iron and steel mills, Mack dump trucks haul slag from the enormous furnaces. Other Mack trucks shuttle semi-finished materials from one operation to the other on precisely-timed schedules, and deliver finished mill forms to warehouses.

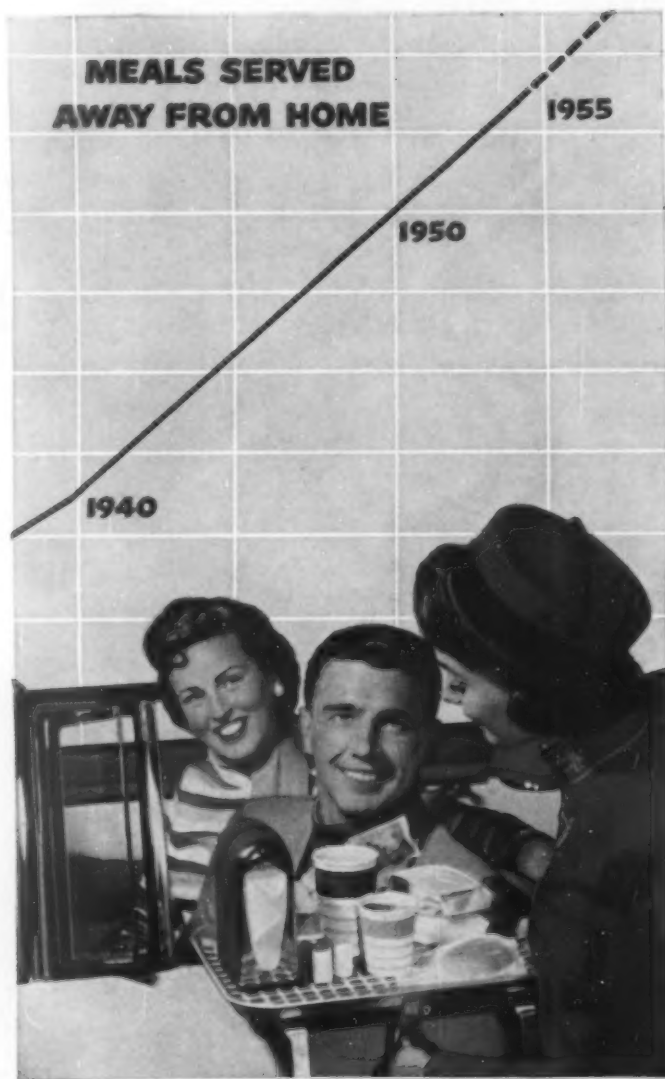
Millions of pounds of steel—girders, window frames, beams, pipe and fastenings—for America's new schools, industrial plants and office buildings are delivered exactly when needed by Macks like the husky lightweight tractor shown on the job here.



Huge Mack dumpers carry tremendous loads of ore from the crater-like open-pit iron mines, climbing steeply spiralling hauling roads, keeping tight schedules 24 hours a day, seven days a week.



\$17 BILLION ... and a tip



A whopping \$17 billion. That's the check Americans paid last year for 78 million meals a day eaten *away* from home. More than we spent on new cars, used cars, TV sets and radios *combined*. Double the amount burned up in gasoline and oil.

Big business? It's the fourth largest market for the consumer's dollar. And a growing one. In 1940 our "away-from-home" food bill was \$9½ billion. By 1960 it is estimated we'll spend over \$19 billion.

And *wherever* "away from home" America puts its feet under the table—in restaurant or club... cafeteria or car... school or hospital... hotel or motel—Marathon paper products help make meals easier to serve, eat, enjoy.

Marathon napkins, cups, sandwich wraps, the revolutionary foil laminated Dine-Out cartons and a variety of other paper specialties are all part of the American "let's-eat-out" way of life. Today, one out of every four meals is eaten away from home.

Tomorrow? Marathon has been working on tomorrow for a long time. This "look-ahead" philosophy is one reason Marathon is America's largest supplier of food packaging. Another reason: Marathon controls every step in production, from the tree to the finished product.

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*Things look bright
where MARATHON
goes to market*



Marathon packages brighten the stores...

Northern home products lighten the chores

Desk work gets the emphasis in Gen. Rawlings' job, where pressure is for the constant careful management of the Air Materiel Command's vast operations, which stretch around the world.

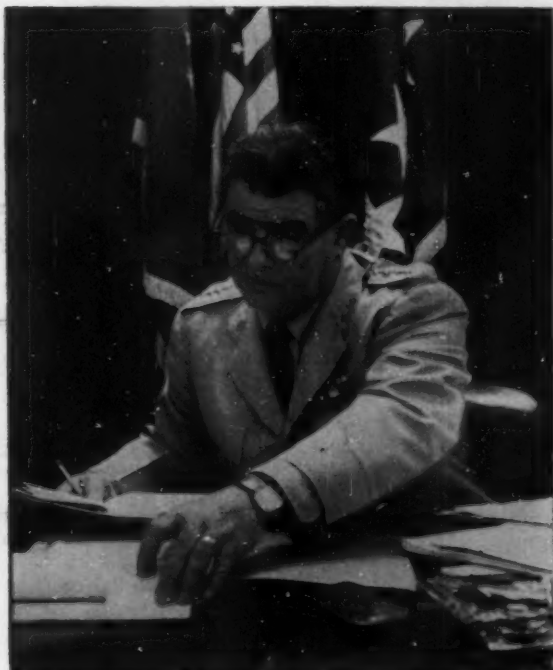
Story starts on page 70

is dictated by the methods of military organization.

• **Policy Man**—Gen. Irvine, who is stationed at the Pentagon, is policymaker for the Air Force's supply system. As a member of the staff of Gen. Nathan Twining, the Air Force's Chief of Staff, he advises Twining on the policy the Air Force's supply arm should follow. This he does through contact with: (1) Twining's other deputy chiefs of staff for operations, administration, and the deputy chief of staff comptroller; (2) his own opposite numbers in the Pentagon staffs of the Army and the Navy; and (3) the leaders of the aircraft industry whose plants turn out the weapons systems for the Air Force. (Responsibility for the action that's taken on Irvine's advice does, of course, rest with Air Force Secy. Donald A.



EXECUTIVE TYPE: Rawlings sits at the top of the chain of command at Air Materiel Command's headquarters at Dayton, gets a run-down on supplies from one staff member.



REPORTS, masses of them that cover the day-to-day status of nation's air power, flow constantly across Rawlings' desk.



WORLD-WIDE command gets a constant check as AMC field chiefs fly in weekly and monthly to meet with Rawlings.



HEADQUARTERS DEMANDS don't take all Rawlings' time. He does watch over his command with personal flying visits.

Story starts on page 70

Quarles, and devolves finally upon the President.)

• **Operator**—Gen. Rawlings, whose headquarters are at Wright-Patterson Air Force Base, near Dayton (Ohio) is the operating chief of the Air Force's supply system, the Air Materiel Command. He runs the world-wide organization of 230,000 people who make up AMC, who buy, store, maintain, and deliver the Air Force's equipment. This job involves managing (1) the procurement of more than 1.3-million different items each year; (2) the storing of all this equipment in 21 major depots and at 164 air bases in the U.S. and 122 air bases overseas; (3) the maintenance of every piece of Air Force equipment (last year, for instance, the maintenance divisions of AMC processed 36.5-mil-

ENSURING immediate supplies: Rawlings gives instructions for report to his secretary.



SETTLING policy: Irvine and Lt.-Gen. Donald Putt, deputy chief of staff for development.

lion items, including 6,000 complete aircraft and 19,000 engines); and (4) the delivery of all the new planes, new engines, spares, and additional parts to the Air Force's bases.

II. Men for the Job

These two men, handling the two different facets of the same massive job, operate as a close-knit team.

Irvine, the man who must handle the hectic Washington end of the organization, has wide technical background, long Air Force experience, and a strong personality that can make him stubborn when it's necessary. And stubbornness combined with technical knowledge often is necessary in handling the politicking end of an operation that involves billions of dollars and hundreds of personalities—from airplane manufacturers to members of Congress—that frequently rasp hard against one another.

Rawlings, the quieter, more studious type, has much the same background in the Air Force and in technical training as does Irvine. But in Rawlings' case this background is coated thickly with the study of management technique. And the quieter approach, plus the knowledge of management are needed for the job he does in the detailed planning, organizing, executing, and supervising of the supply arm's work.

• **Team Experience**—The two worked closely together before Irvine became Deputy Chief of Staff for Materiel in May last year. In the years between the wars they passed through many of

the same Air Corps and Army training schools and through the same air bases. Twenty years ago, when both were captains, they were involved in the control and management of the Air Corps' supplies. And after World War II, they served three years together at the Air Materiel Command headquarters at Wright-Patterson field.

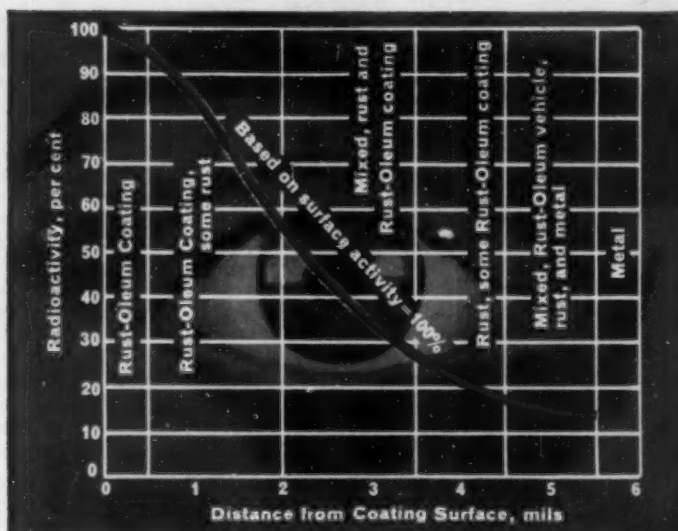
• **Joint Planners**—Four years ago, when Irvine was Rawlings' deputy at Dayton, and when the Air Force was growing from 42 to 70 wings, the two ran a projection and decided that if Air Force supply methods weren't changed, it would cost \$30-billion a year to run the Air Force by the time the 70 wings were operating. Since then, the Air Force has grown to 131 wings and is reaching toward the goal of 137 wings. Yet, it's spending 25% less for maintenance and 10% less for supply than Irvine's and Rawlings' projection showed. The cuts have come through extensive streamlining of the management of supply and maintenance. And most of the planning of that streamlining was done by Irvine and Rawlings.

It's an accomplishment like this that inspires men like the Air Force's Assistant Secy. Dudley C. Sharp to say, "These two could run any business in the world. They're absolutely the finest executives I've ever met."

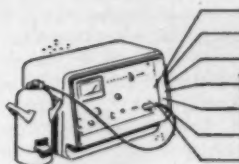
III. How They Divide It

While Irvine's job is called one of preparing policy, and Rawlings' one of running operations, there is some over-

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Curved line illustrates Rust-Oleum penetration through rust at each mil level as recorded by Geiger Counter.



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Geiger Counter traces Rust-Oleum penetration to bare metal! In nearly three years of radioactive research, Rust-Oleum's *specially-processed* fish oil vehicle was radio-activated and formulated into Rust-Oleum 769 Damp-Proof Red Primer — then applied to rusted test panels. Rust-Oleum's *specially-processed* fish oil vehicle was then traced through the rust to bare metal by Geiger Counter.

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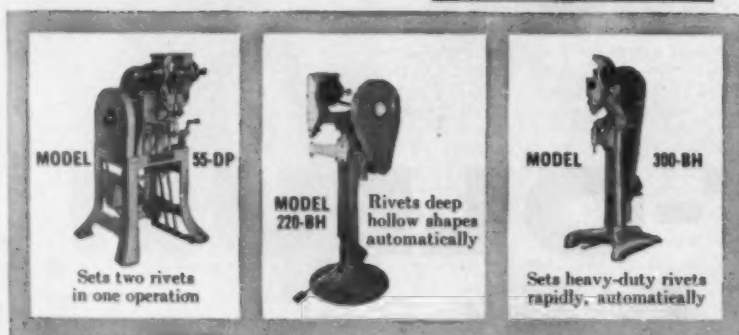
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lapping. Irvine sometimes finds himself getting into the operational side of Air Force procurement; Rawlings will sometimes handle a problem that involves policy. Generally, though, the division between the two jobs is maintained.

• **Personnel**—You can see their method of operation in one current Air Force problem: the maintenance of the Air Force's new F-100s, the supersonic version of North American Aviation Inc.'s Sabrejet fighter. These airplanes are in production and flying, but there aren't enough mechanics and electronics specialists at the day fighter stations around the U.S. to keep all available F-100s in the air. One of the reasons for the Air Force's shortage of these trained maintenance personnel is that airplane manufacturers have tempted such men away from re-enlistment in the Air Force.

Irvine and Rawlings saw some time ago that a program would have to be set up to (1) get all available planes in the air by rounding up more mechanics and specialists, and (2) ensure that there'd be no further shortage of maintenance men. To push the first part of the program along, they decided that the airplane manufacturers would have to help out by lending the Air Force the services of some of their own technical men. To speed the second part they determined to take whatever action was necessary to increase the skill of Air Force mechanics and to get them to re-enlist.

Policy—and Irvine—were thus deeply involved in this program: first, in getting the manufacturers to send some of their men to the air bases; second, in trying to convince Congress that the Air Force must pay higher re-enlistment bonuses, provide better housing, raise its technicians' pay.

Rawlings, meanwhile, went to work on the more-operational, less-policy facet of the program. He is seeing that the specialists in his maintenance division draft a detailed plan for increasing by on-the-job training the skill of Air Force mechanics working with F-100s, and that mechanics graduating from special Air Force schools are assigned to help with this problem.

• **Parts**—Again, you can see the difference between the two generals' jobs in the case of an electronics manufacturer who had just been awarded a contract as a second-source supplier for an airplane fire control system. His problem was that he felt he was not getting enough cooperation from the manufacturer who held the prime contract for the complete weapons system into which the fire control apparatus was to be fitted. Since the manufacturer's request for cooperation meant that some well-directed pressure would have to be put on the prime contractor,

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Even communities who have had meters for many years . . . but have allowed them to run down . . . can "find" more water simply by repairing their meters.

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Irvine, the policy man, took on the job.

But if the same electronics manufacturer were to have trouble getting some of the components for his systems from his own subcontractors, he would take his problem to Rawlings. And Rawlings, the operational management man, would send one of his staff to speed the flow of the needed components.

IV. The Hectic Part

There's only a bare framework of routine to Irvine's job. Twice a week he attends meetings of the Air Council, whose members consist of the Air Force's deputy chiefs of staff. Once a week he holds a formal staff meeting with his subordinates in the Pentagon.

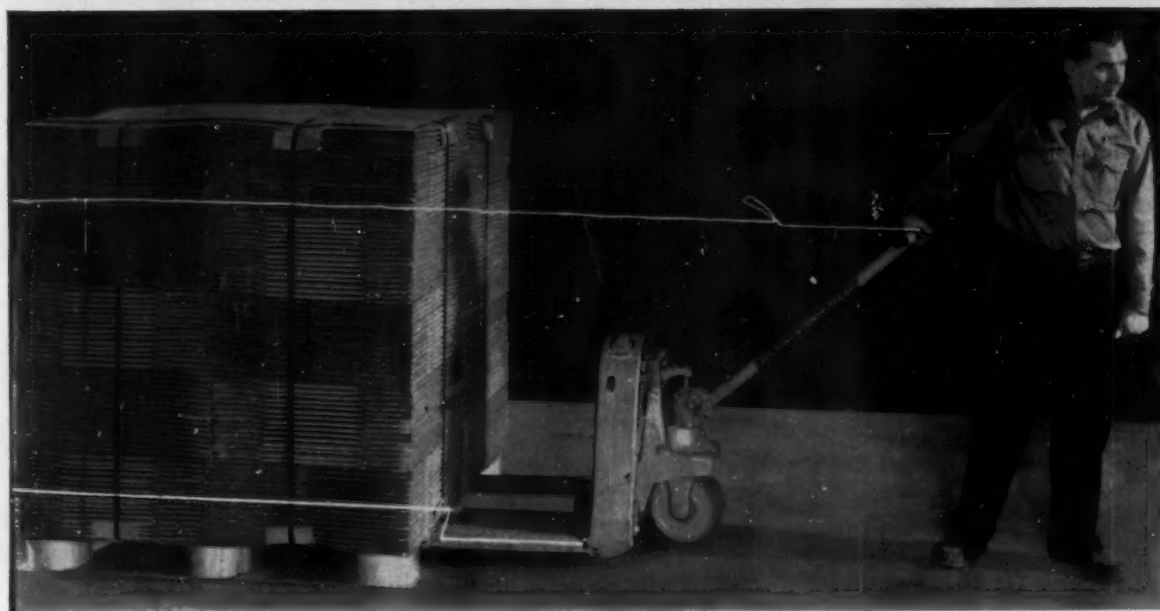
But his life is really largely a matter of dealing with a series of crises and emergencies. Some of the time, he's on the road. Some of the time, he's at his Pentagon desk.

• **On the Road**—A few weeks ago, when he set off on a one-day swing through airplane and missile plants in California, Irvine spent the morning getting a briefing on the precise status of the Air Force's entire missile program; lunched and spent some of the afternoon with North American Aviation Inc.'s Chmn. J. H. Kindelberger discussing production of long-range interceptor planes; scooted down to San Diego for a quick meeting with top executives of General Dynamics Corp.'s Convair Div. That night he flew from Los Angeles to Omaha to see Gen. Curtis LeMay, chief of the Strategic Air Command, about production priorities for B-52 jet bombers.

• **Morning**—In Washington, Irvine's life is very nearly as hectic as when he's on the road. He leaves his quarters at Bolling Field across the Potomac from the Pentagon just after 8 a.m., takes a Navy "crash" boat across the river, walks in the river entrance door of the Pentagon at 8.30 a.m. From there on it's a rat-race. Generally, it's hours later before he reaches his office—not because he gets lost in the Pentagon corridors but because he is waylaid along the way by other senior officers.

Take this typical day recently. At 8.30 a.m., Irvine stopped off at Gen. Twining's office to discuss important modifications of the B-52, newest bomber of the Strategic Air Command. Near the end of this discussion, Air Force Secy. Donald A. Quarles called about a budget problem, and both Twining and Irvine spent a while talking this over with Quarles.

Irvine bounced into his own office at 9.30, found his first appointment of the day had been waiting half an hour. It was an appointment with a chief engineer of a major airplane maker, and the problem he had concerned engi-



You can see the savings!




You probably pick things up and set them down at least four times between your receiving dock and your production line—or from production line to shipping dock. The top photo shows how just one of these four handlings looks in the case of small twine-tied bundles of KD cartons. The lower photo shows how much you save when you handle such things in steel strapped unit bundles. This is unitizing—one of many Signode ways to make your product cost less to handle, store, ship and receive. A talk with your Signode representative will be time well spent. No obligation. Just write:

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neering deficiencies in aircraft that his company was making. Irvine called in several members of his staff to talk over the problem. They, in turn, called in the deputy chief of staff for development to hear what suggestions he had.

Then Irvine hashed over a funding problem with the director of the budget, got off some dictation, signed some letters, took up the most pressing but unscheduled problems with his executive officer, and had lunch with Asst. Secretary Sharp and a congressman.

• . . . **Afternoon** . . .—Irvine's afternoon started with a briefing on modification and modernization of 2,200 F-86 jet fighters, a "presentation" on a missile program, and two still-more-hot potatoes. One was whether to send Air Force support—spares, ground equipment—for aircraft that a foreign country had bought from the U.S. The second was a request from Secy. Quarles for information on the speed-up of an aircraft program and the effects that this would have on the budget and the whole procurement program.

Late in the afternoon Irvine got a beef from the president of an airplane company about an Air Force directive that restricted the planned expansion of his plant. And 10 minutes later Secy. Quarles asked Irvine to drop by and discuss the building of a new plant for a missile program.

• . . . **and Night**—With the normal working day over, Irvine's task continued. He barely had time to wash his face before getting to an Embassy party, a formal affair starting at 6.30.

After he returned home from the party, Irvine found several telephone messages, mostly from key industry people. He accepted the ones he considered most important and started arranging his schedule for subsequent days.

V. Background for a Job

For such a job as Irvine's—one that demands fast handling of delicate problems in crisis—a man needs a personality exactly suited to his work if he's to survive. Irvine's personality seems to fill the bill precisely.

At 57, he's a tall, rugged, cigar-chomping extrovert with a background of 38 years in the Army Air Corps and the Air Force. (He was in inactive status for only five of those 38 years, between 1921 and 1926.) In that time he has inter-mixed flying, engineering, and production; graduated from the Air Corps' technical and engineering schools and from the Army Industrial College.

• **Tough Missions**—In World War II, one of his biggest jobs was to get the

New Materials Stretch Profits

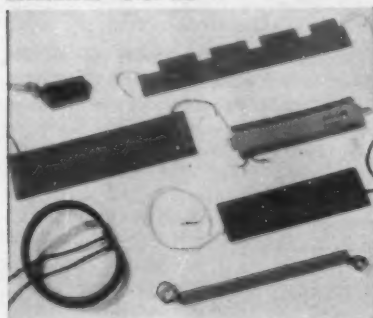
Silicone rubber cuts aircraft warm-up time; opens new markets

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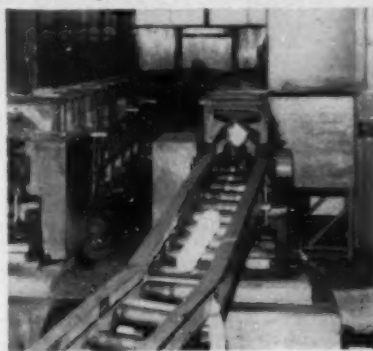
Void-free, moistureproof insulating jacket has maximum flexibility, minimum thickness, high thermal conductivity, excellent dielectric properties. Safeway heaters may be immersed in fluids that must be heated or maintained at optimum temperatures. Other aircraft applications for the heaters include gyros, bearings, cameras, valves, hose, pitot tubes. Large industrial market is indicated. No. 22



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• **Fish Foam** — Trout churn up troublesome foam in tanks carrying them from hatcheries to your favorite fishing hole. Here, as in thousands of industrial applications, a little Dow Corning silicone defoamer kills foam; saves cleaning scum from tank walls; makes everybody happier—including the fish. No. 23

• **No Siestas for Induction Heaters** Vancouver Rolling Mills of Canada cut steel ingot heating time 75%; reduced fuel costs \$200 per day; stepped up production 30% with induction heating coils insulated with Dow Corning silicones. Cold ingots are heated to 2300 F and converted to bar stock in 10 minutes. Rated production is 20 tons an hour. With heating coils cheek by jowl with white-hot ingots, only silicone insulation can prevent coil failure. Same's



true in any hard working or space and weight saving electrical or electronic equipment. No. 24

• **Self-bailing Boats** — "Bail-a-matic" pumps in Scott-Atwater's new outboard motors start bailing the first time out after winter hibernation, thanks to a few drops of Dow Corning 200 Fluid as nongumming lubricant for rubber impellers. No. 25

• **Grease Cuts Labor Cost**—Relubricated every 8 hours with high temperature organic grease, injector valves on Cooper-Bessemer engines in a gas field compressor station still required frequent cleaning and replacement. Relubrication cost 1600 man-hours a year plus materials. Dow Corning 41 silicone grease, used since 1953, cuts relubrication schedule from 3 times a day to 3 times a year;

minimizes down-time and replacement costs. Comparable savings reported for heat-stable silicone lubricants in hard-working motors, textile machines, oven conveyors. No. 26

• **Lasting Beauty**—A few years ago, silicone-based cosmetics were total strangers to drug store shelves and beauty salons. Now, they're big business and growing like Jack's bean stalk. Latest count found over 60 cosmetic manufacturers making new or improved products through use of silicone fluids. List includes protective hand creams, sun-tan oils, nail polishes, after-shave lotions. Anatomy-wise, applications range from baby bottoms to hair dressings.



How come? With properties unlike those found in conventional ingredients, silicone fluids developed by Dow Corning give cosmetic industry new selling features. Durably water repellent, nonvolatile and harmless physiologically, silicones help cosmetic chemists create new and better products. Also important is rapidly growing sales appeal born of major contributions made to every day living and to the industrial economy by silicones. No. 27

• **Competitive Advantage** — often hinges on materials engineering. That's why design, production and maintenance men need handy new Reference Guide to Dow Corning Silicone Products. No. 28

Dow Corning Silicones Mean Business!

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on silicones used in these
applications, circle refer-
ence numbers in coupon.

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FRANCE: ST. GOBAIN, PARIS

The Credit Manager came up to the three standing there.



The Executive V. P. takes control

"But this—" the Production Manager was almost plaintive—"would mean a complete retooling! We can't fill this order with the setup we have!"

"Isn't that," the Sales Manager thought, "just like an engineer?" Aloud he said, "Bob, I'll leave that worry to you. We've got the order, and it's enough to use up our whole plant capacity!"

"More than use it up!" The Production Manager sounded bitter.

"Frankly, that's what has me worried." The Executive V. P. deliberately kept his voice level. No good stirring things up more than they were already. "If we accept this order, we've got to find more working capital—and I frankly don't know where!"

The Sales Manager was scornful now. "Here I expect opposition, not from you guys, but in Credit. Credit passes the account in a breeze! Harry says it's insured already, and he's putting in for more coverage, and—"

"—and he's practically got it already!" The Credit Manager came up to the three standing there. "I'm having lunch with our American Credit Insurance Agent," he went on, turning to the Executive V. P. "and I'd like to have you along. How about it?"

"Wonderful, Harry!" The Executive Vice President seized the straw and no longer felt that he was drowning in difficulties.

• • •

"—so you see, there's not much point in our increasing the coverage, since we can't take the order anyhow." The Executive Vice President felt he was letting the American Credit man down soft and easy.

The agent smiled to himself. "Well, Mr. Robinson—" he kept his voice judicially calm—"have you considered your accounts receivable as collateral for the working capital you need? You can, you know."

"Well, that's true, but we'd need a lot of money—and for a pretty long time, too!" The Executive Vice President was not exactly dubious, but . . .

"On insured accounts—and that would include your newest account, of course—you shouldn't have any difficulty at all in raising all the money you'd need." The American Credit Insurance man was very sure in his tone. "As far as the time goes, you can most likely arrange to use funds on a continuing basis. We've handled quite a few such arrangements, where the policy names the lending institution as the collateral beneficiary. Here's how it works—" and he went on to outline a plan.

The Executive Vice President was dubious no longer. He suddenly saw a way to give Production the tools it needed, to give Sales a go-ahead on the biggest account in company history, to give his company the biggest boost it ever had—and he felt once more in complete control of the situation.

Enhancing the value of accounts receivable as collateral is only one of the advantages of having Credit Insurance. Among the 12 major benefits of Credit Insurance, a number of others are also bound to accrue to your favor. For your copy of a booklet, "A Preface to Profits," write American Credit Insurance, Dept. 42, First National Bank Building, Baltimore 2, Md.

**American
Credit
Indemnity**

COMPANY OF NEW YORK

B-29 into production and flying. It wasn't easy. The B-29 had many bugs when it was first produced. Engine fires and parts failures were frequent, for the B-29 was then about the largest airplane built and, though each part of it functioned properly in individual tests, it took a good deal of risky work to get the complete bomber to function in the air.

After the war, he got a similar tough assignment—to make a first-line bomber out of the B-36. This again involved working the bugs out of the first models. Gen. Curtis LeMay, then as now, chief of the Strategic Air Command, told Irvine when he took on this job: "You are now a brigadier-general. We want the job done in six months. At the end of that time, depending what you achieve, you'll either be busted back to colonel or promoted to major-general."

Irvine got his promotion, and was given command of the 19th Air Division, the heart of the Strategic Air Command. In 1952, he transferred to the Air Materiel Command at Dayton. Through the next three years he worked with Rawlings on the changes in management of the Air Force's supply system that they have since put into effect.

VI. The Management End

Rawlings, the quieter, pipe-smoking management expert, became head man of AMC in August, 1951, at the height of the Korean War. One of his first jobs was to work the command down to a manageable size. It was strangling in a vast volume of paper work because all the Air Force's problems of supply—even the smallest—flowed into AMC headquarters for solution.

• **Streamlining**—When Rawlings took over, AMC's headquarters staff numbered 12,000. Today it does a bigger job than ever before with a staff totaling 7,000.

Much of the streamlining was a matter of careful decentralization. Rawlings passed authority for 20% of AMC's procurement business to his subordinate area commands. Low-cost items that didn't require the careful screening of the headquarters staff made up most of the 20%. But by shifting that to area commands, Rawlings managed to reduce his headquarters' procurement paper work by 80%.

Next, he started centralizing some other operations. He brought the supply of overseas depots under his wing. Previously, theater commanders had held sway over supply in their own areas. They often clung desperately to materiel that they didn't need, but that was wanted urgently in other theaters.

• **Built to a Theory**—By this time, the Air Force had decided to build itself

No sudden shipping bottleneck here...



because no sudden failure here

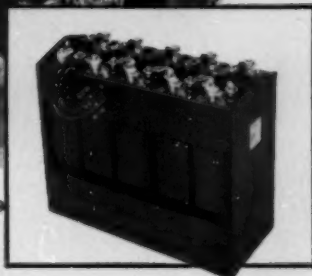
an EDISON battery won't let you down

In the hustle-bustle of shipping departments, time is doubly precious. That's why so many companies depend on industrial trucks powered with EDISON batteries to make every second count. Shipments get out on time . . . costly tie-ups are eliminated . . . man-hours are saved because EDISON batteries incorporate every feature to assure "no sudden failure."

Because of their strong all-steel cell construction, EDISON batteries withstand abnormally rugged working conditions. They are electrically foolproof too . . .

can be charged rapidly at full normal rate up to and including end of charge.

When developing them, Thomas A. Edison considered economy as well as dependability. And test after test proves that an EDISON costs less to own and operate. Today there's an EDISON battery for your material handling need—from small "walkies" to big ram trucks. Ask your local Edison field engineer to help you choose the one best for you. Or write Edison Storage Battery Division, Thomas A. Edison, Incorporated, West Orange, N. J.



THE TRUCK THAT NEVER LETS YOU DOWN IS ELECTRIC

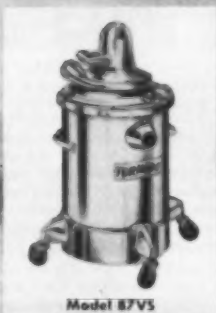
Quiet, clean, smooth, safe, low-cost electricity is also the most dependable power for industrial trucks. For any stop-and-go material handling job, instant on-off Edison battery power in an electric truck is the most dependable and economical combination.

You get more dependable power—lower over-all cost with

EDISON
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TORNADO[®] WAS HERE!



Model 87V5

A high powered, free wheeling Tornado Industrial vacuum cleaner just left, pulling every drop of water off the floor, out of cracks and crevices, leaving the surface "bone dry" and spotless. The powerful Tornado suction is faster, more efficient . . . and the floor is ready to rewax and polish immediately.

Tornado requires no conversion from wet to dry pickup. Thousands of satisfied users are experiencing Tornado cleaning results, so can you!

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on-the-job demonstration now!

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on the theory that the next war would be won or lost in 60 days—or less. So Rawlings had to set about speeding up the overseas supply chain, for one of the axioms of the 60-day-war theory is that supplies must be available to all Air Force units within at least two or three days of the time they're ordered.

Rawlings is using automation and airlift to speed the Air Force's supplies. And he has found that the dollars spent on communication and transportation come cheap. He is spending more money on both—but he's saving much more than he spends through reductions of inventory and manpower.

• **\$-Billion Gain**—The airlifting of jet engines to bases around the world is one example of how he has won big savings through spending more on transportation. Until October, 1954, these engines were shipped by sea or land to all Air Force bases. Slow transport meant that many more engines—each costing around \$200,000—had to be kept in inventory and fed into the supply lines. Now, by airlifting the engines, Rawlings has cut his inventory in half. One high AMC officer reckons the saving that comes from this runs to about \$1-billion. A civilian official of the Air Force figures the saving is even greater than that.

• **Communications**—To match the accelerated supply system, Rawlings has installed a rapid communications network to U.S. air bases here and abroad. Each Air Force base and depot and logistics control center is linked by electronic transceiver to AMC headquarters.

If a base in Germany needs more engines, AMC will be filling the order a couple of hours after it's requested. The order goes out on the network to the appropriate depot. If that depot is out of the needed supplies, the order is instantly switched to another depot. The network costs \$500,000 a year to run. But the savings in inventory and paper work run to many times that figure.

Automated equipment for data processing, inventory control, and materiel handling also gets heavy use at AMC headquarters now.

One of the data processing machines' jobs is to forecast engine life by using life insurance actuarial tables. An AMC investigation not long ago turned up the fact that airplane engines and electronic assemblies have a life expectancy much like human beings. Failure is most likely when the engines and assemblies first begin operating. Once they're past this critical period, they have a long life expectancy. Until AMC studied the whole question, airplane engines' life expectancy was projected as a straight line. Now the theory of when new engines should be



Rich colors, sparkling appearance of card box cover typify the beauty of PLEXIGLAS moldings.



Water meter cover molded of PLEXIGLAS has excellent clarity, high resistance to impact.



PLEXIGLAS gives weather-resistance, light weight, great strength to insulation clamp for power cables.

Designed with **PLEXIGLAS** in mind

Products like those shown above have proved successful because their designers and molders took advantage of the properties of PLEXIGLAS® acrylic plastic. Whether *your* requirements for a molded part are rugged durability or gleaming beauty, or both, PLEXIGLAS can provide the answer.

Here are the reasons why so many types of products in varied fields of industry today are planned to be molded of PLEXIGLAS—the resistance of this acrylic plastic to weather, heat and breakage . . . its crystal clarity, resulting in depth and brilliance of colors when back-surface paints and metallized coatings are applied . . . the optical effects possible . . . its ability to be molded accurately into complex shapes.

Our technical representatives and Design Laboratory staff would like to show you how PLEXIGLAS can solve specific problems involving molded plastic parts.



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SPEED UP THESE TOUGH JOBS



Ingersoll-Rand GR-125 Gyro-Flo Compressor, Continental-powered, operating Mail chain saw cutting 12" x 12" timber to repair pier. Equipment in use on an eastern railroad.

WITH CONTINENTAL RED SEAL POWER

Year after year, ever since 1902, Continental engines have been proving their dependability in a steadily-lengthening list of special-purpose machines. Today, no matter what the exact requirement of the job, there's a Red Seal model—gasoline, Diesel, or LPG—engineered and built to meet it down to the last detail—a model with the proper performance characteristics, profile, shape and weight. In the industrial line there are models at closely-spaced levels—from 14 to 240 horsepower. You find them on an almost endless number of operations, speeding the tough jobs and delivering their full work quota, day in and day out, with a minimum of time out for adjustment or repairs.

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8750 CEDAR SPRINGS ROAD, DALLAS 9, TEXAS • 1252 DANLEIGH DRIVE, EAST POINT (ATLANTA) GA.

produced and ready for use has been sharply changed.

• **Some Relaxation**—But Rawlings has decided that precise management of all the billions of dollars worth of equipment in AMC's hands isn't necessary. Before he took his AMC post, the command put equal emphasis on the management of each of the 1,375,000 different items that the Air Force deals with. Rawlings found that large savings could come through selective management of the supplies, since the Air Force spends about half its money on just 2% of the equipment it buys. So AMC now subjects that 2% to meticulous inventory control and thus watches closely over the most costly part of its supplies.

VII. Recipe for Management

Management methods like these didn't come to Rawlings out of thin air when he took charge of AMC. He, like Irvine, has spent much of his time in the Air Force in production, engineering, and supply groups.

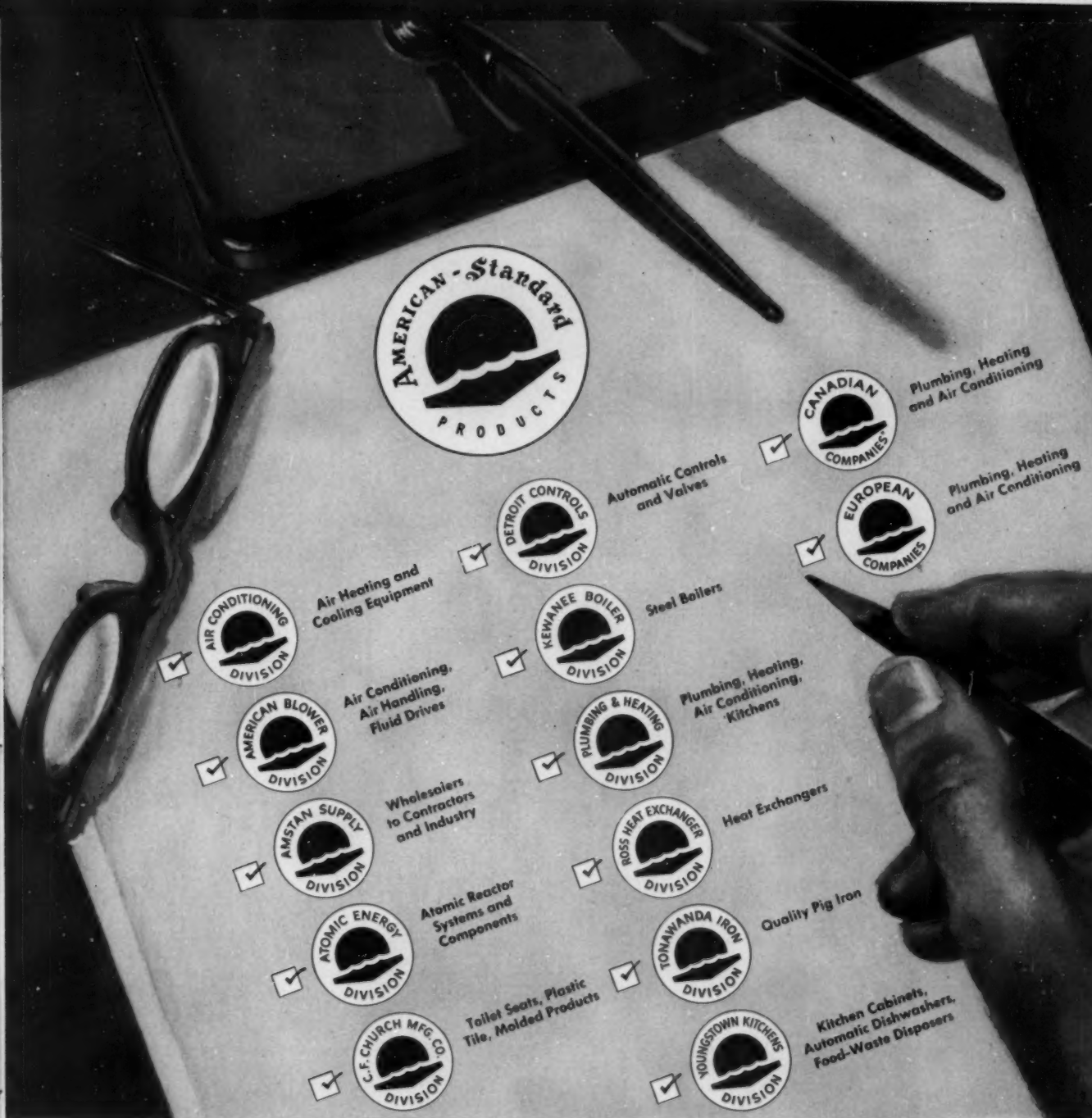
He joined the Air Corps after majoring in economics at Hamline University (Minn.); spent much of the 1930s as a command pilot, moved out of flying and into staff work in 1937 when he was selected for specialized training at Harvard Business School.

• **Making the Planes**—Through World War II, he headed the unit responsible for scheduling the materiel and critical components needed to maintain the aircraft industry's production time-tables.

Postwar, and after the Air Force became a separate service, Rawlings was assigned as its first comptroller.

• **Personal Touch**—Since August, 1951, as head of AMC, he has been bound fairly tightly to his desk at Dayton. But he does manage to keep in close contact with his staff, based all over the world. Once a year he makes a round-the-world flight to see all the depots under his command. His deputy makes the same tour six months after Rawlings. Once a month, his overseas and U.S. subordinates fly in to Dayton to confer with him. Once a week, the AMC division directors meet with him at Dayton. The personal touch, Rawlings guesses, is vital to keep an organization as large as his from becoming a heartless bureaucratic maze. For that reason he has a team constantly checking the efficiency ratings of all the depots and awarding monthly prizes.

And since his whole operation is inevitably keyed to combat, he is trying to wipe out the rear-echelon atmosphere that can infect the morale of the whole supply chain. To do this, he sends groups from each depot out to Air Force combat bases during every Air Force exercise. **END**



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Check any one and you get **AMERICAN-Standard** quality

The trademarks above represent the divisions and companies that make up the American-Standard family. It is a large family with plants in the United States, Canada and Europe.

The products made by these divisions are unusually varied. They range all the way from controls for refrigeration and air conditioning systems to automatic mixing valves for washing machines . . . from huge units that heat and air-condition famous hotels to compact ones that cool homes in summer, warm them in winter . . . from quality pig iron to atomic-reactor systems . . . from kitchens for the newest ranch houses to colorful plastic tile for bathroom walls . . . from bathrooms for homes to plumbing fixtures for new hospitals and schools.

Divisions of American-Standard supply these and many, many more products that contribute to the comfort and efficiency of private

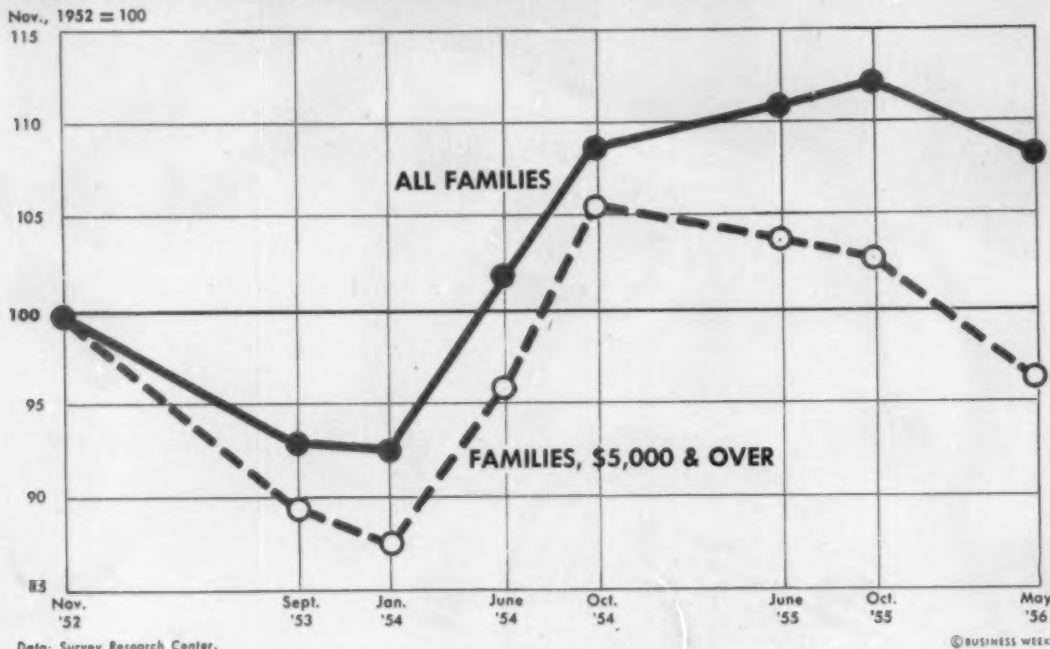
homes, industrial installations, and public buildings. And all of these products have one thing in common . . . all bear the stamp of highest quality . . . American-Standard quality. For more information about the products made by the divisions and companies that make up this family, write American-Standard, 40 West 40th Street, New York 18, N. Y.

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The Index of Consumer Confidence



The Survey Research Center's mid-1956 report shows consumers...

Cheerful but Not Exuberant

Consumer confidence has slipped since last fall. But the falling-off, as reported by the midyear survey of consumer attitudes and buying intentions taken by the University of Michigan's Survey Research Center, is not quite so serious as it looks (chart, above).

The drop is there all right, particularly among the upper-income groups, which have been mainly responsible for the sag in the index. However, this turn downward was forecast six months ago by the fall survey (BW-Dec. 3 '55, p158), which showed that consumer confidence, after rising rapidly through 1954, was leveling off.

The sag in the index is explained not so much by a drop in personal income or financial security as by the fact that the economy itself has leveled off at a high plateau. The Survey Research Center report puts it this way:

"There are tentative indications that stability at a high level does not create the same degree of satisfaction as rapid improvement."

• **Signs of Strength**—Other findings of the new survey suggest that the present drop in consumers' confidence does not signify storms ahead:

Optimism about the year ahead—both as far as consumer's personal finances and the economy in general are concerned—is just as high as ever (charts, page 98).

Buying plans for major consumer durables, except cars, are only a shade under the previous high level.

Installment debt, despite its high levels, does not seem to worry consumers any more than it did six months ago.

These readings on the consumer's mood are consistent with the current high level of retail buying, which—except for cars—has shown no sign of slackening. All told, during the first five months, retail sales made up the drop in auto sales and still ran \$34-billion ahead of last year (BW-Jun. 16 '56, p19).

I. Buying Intentions

The present survey of 1,750 families was made during the period of Apr. 16 to May 21 (before the President's second illness). It is part of the so-called "interim" series of surveys, which are privately financed and are taken before

and after the Survey Research Center's annual survey of consumer finances and intentions for the Federal Reserve Board (BW-Mar. 17 '56, p32).

Here is the rundown on consumer buying plans over the next few months:

Autos. Consumer intentions to buy autos have been steadily dropping. The spring survey last year showed a 10% drop in buying intentions from the six months previous. This time the survey records another—not very surprising—10% drop. The recent decline seems to come mainly in the \$5,000-and-over families; the lower-income families' intentions remain where they were six months ago.

However, there are two bright spots in the picture:

• Intentions to buy used cars have remained stable over the past six months.

• Though intentions to buy 1956 models are down, there seems to be considerable hope for the sales of 1957 models. The Survey Research Center finds that consumers don't look on the 1956 models as really new. It further finds this:

"A relatively large proportion of pro-



Pattern Design Strip—"Thomas Strip is the only company that can supply our requirements for Pattern Design plated strip," says an official of Milwaukee's M. A. Gerett Corp., world's largest manufacturer of fine coin banks like those shown above in assembly. Thomas' lacquered copper, brass and nickel coated strip cut M. A. Gerett's rejection rate 7 percent. Piece buffing at Gerett was eliminated through adoption of Thomas' Pattern Design Strip. Die life increased, too, because the strip's coating acts as a lubricant during the forming operation, yet doesn't crack.



Brass—Gleaming brass coated strip from Thomas offers manufacturers electrolytically pre-coated steel with a finish that can be oxidized readily to a variety of shades. Subsequent lacquering gives an attractive and permanent final product finish. Here is steel's strength and economy with the advantages of brass. It protects parts-in-process against corrosion and lends itself readily to production of small stampings, drawn parts, tubing and roll-formed sections. Available in natural, planished and buffed finishes in a variety of widths, tempers and gages.



You Can Bank On Saving Money With *Thomas Strip* Pre-coated Steel

Manufacturers using Thomas Strip—pre-coated with zinc, copper, brass, nickel, tin or lacquer—are piling up big dollar savings.

These fabricators are reducing their production costs . . . stretching supplies of hard-to-get, expensive metals . . . and making their finished products more competitive and attractive.

Pre-coated steel specialties from the Thomas Strip Division of Pittsburgh Steel Company come to you already electroplated with zinc, cop-

per, brass or nickel. Or you can get them hot dip coated with lead alloy or tin. Natural, planished or buffed finishes are available. Lacquer coatings are furnished in a full range of colors or in clear lacquer. Thomas also can supply you close tolerance plain steel strip in a variety of tempers, grades and finishes.

Thomas Strip has long been recognized for precision rolling to extremely close tolerances in gages down to .004 inch and up to 22 inches in width. Tempers include 1,

2, 3, 4 and 5, or special tempers as required. You can get Thomas Strip in oscillated or ribbon-wound coils or in cut lengths. A choice of edges is available to meet your exact specifications.

Don't overlook the possibilities of Pattern Designed rolled strip which Thomas produces in an almost unlimited variety of patterns in coated and uncoated finishes. Turn the page to see how other manufacturers are cutting costs with Thomas Strip products.

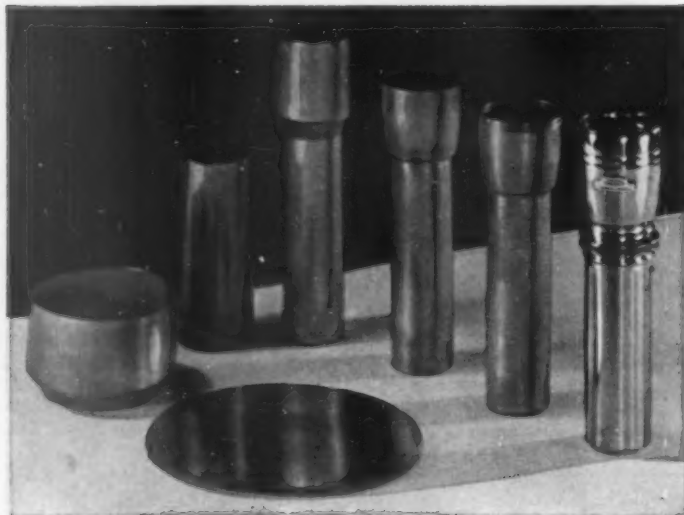
HOW PRE-COATED THOMAS STRIP SAVES YOU MONEY



Nickel Coated Strip—Loose Leaf Metals Co. of St. Louis is one of the largest manufacturers of metal hardware for binders and loose leaf books. Photograph shows production of a metal part for a first grade ring metal. President George A. Ober says: "We have never experienced a flaky surface on a Thomas product. We've come to know Thomas will not ship until its product is right, therefore, we have never had to reject their materials." Thomas is a major supplier of cold rolled nickel, copper, tin, zinc and lacquer coated steel.

Plain Steel—Bright uncoated steel strip in low carbon, alloy and spring steel grades, has uniformity of temper, gage and finish. Above, plain cold rolled steel passes through a temper mill at the Thomas Strip plant. In addition to high finishes, Thomas Strip is available in dull and regular finishes, in coils or cut lengths—in a choice of edges—and a range of specifications.

Here's Why You Cut Costs With **Thomas Strip**



Copper Coated Strip—Here's the evolution of a Ray-O-Vac flashlight—from electroplated copper strip, produced by Thomas Strip, to the finished product. Blake Manufacturing Division of Ray-O-Vac Company at Clinton, Mass., changed from brass to steel for this and other flashlight cases. Production savings from 17 to 29 percent resulted. Ray-O-Vac uses a .020 gage, non-scalloping, deep drawing quality strip steel produced by special processing techniques. The steel is electro-copper coated on both sides, and is 6 $\frac{1}{4}$ inches wide. On three popular models alone, the savings amounted to more than \$100,000 in one year.

- **Thomas Strip Fabricates Easily**—Coatings stand fully as much fabrication as the easy-to-work base steel.

- **Die Life Is Lengthened**—Most coatings lubricate dies, reduce wear.

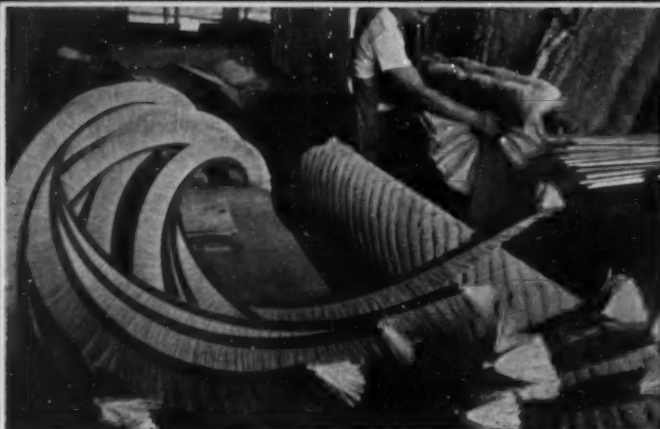
- **Gives Maximum Pieces Per Pound**—Because Thomas Strip is rolled to extremely close tolerances, you get the maximum number of parts per pound of metal.

- **Cuts Plating Costs**—Thomas coatings can serve as a final product finish or as a prepared base for further plating or painting.

- **Your Manufacturing Processes Are Streamlined**—Ready-to-fabricate Thomas Strip streamlines your manufacturing processes to two essentials—fabricating and assembly.

- **Extends Economy Of Steel To Many Parts**—Pre-coated Thomas Strip replaces more expensive metals.

- **You Can Begin To Save Today**—Experienced Thomas metallurgists and technicians are available now to help you with your steel problems. Their help is yours for the asking. Write or call any Pittsburgh Steel Company sales office.



Zinc—Long "strips" of Thomas zinc-coated steel hold the vegetable fiber in Fuller Brush Co.'s power-driven brushes shown above. In foreground is an industrial brush used to process plywood. The brush in the background is for an automobile washing machine. Although zinc-coated steel undergoes a severe deformation in forming machines, this Thomas product takes the punishment easily. The heavy, uniform coating of zinc remains undamaged, giving the brushes long life.



Tin Coated Strip—International Register Co. of Chicago, producer of electrical timing devices, made approximately a 20 percent saving when it switched to Thomas pre-coated strip. Tin coated strip, like that above, provides corrosion resistance to dials, gear case covers and other timer parts. Above, Ray Gabriel, International's Steel Buyer, shows Pittsburgh Steel representative Buck Mills a completed Inter-matic Time-All appliance timer.



Lacquered Strip—"Nothing works as well on our machines as lacquered steel strip from Thomas," declares Max Haas, plant manager for Hinton Associates, Inc., of Staten Island, N. Y., manufacturer of Happiness Bird Cages. Hinton Associates processes blue or pink lacquered strip in the machine shown above to form a border for seed guards on its cages. Mr. Haas said: "We like Thomas lacquered strip because it doesn't break in forming machines or power presses. The zinc backing on the strip permits the rolls to get a good grip when the metal passes through our machines."



High Carbon—Thomas Strip's high carbon strip gets a tough test in the Toledo, Ohio, plant of Prestole Corp., manufacturers of steel fasteners. Prestole bends, twists, shears, punches and forms Thomas Strip's high carbon strip, as in the operation above. It has to have steel that's free of excessive burring, gives the finished fasteners the right springback and proper tension. Each coil must be uniform in chemical and physical specifications. "We've never had a complaint yet about Thomas quality," says Roy Gutzmer, plant manager.

Thomas Strip®
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Pittsburgh Steel Company
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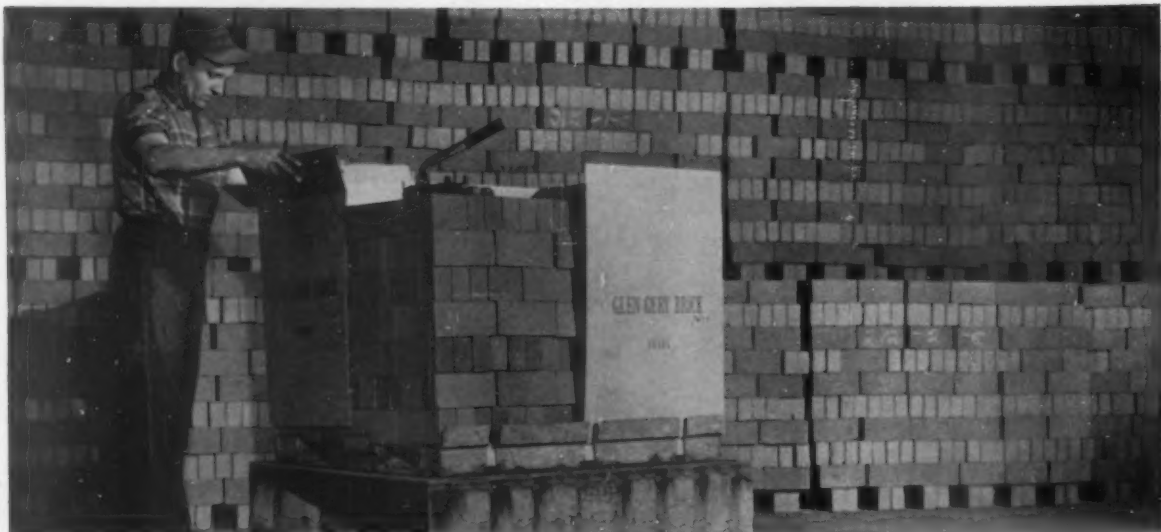
Columbus
Dallas
Dayton

Detroit
Houston
Los Angeles

New York
Philadelphia
Pittsburgh

Tulsa
Warren, Ohio





Man stacks brick onto corrugated base. Fits sides. Steel straps package.



Entire package is corrugated. Can be handled easily by fork truck.

CORRUGATED brick pack cuts handling costs 80%... practically eliminates breakage

To load a trailer truck with unpackaged brick, three men and a lift truck would ordinarily need 35 to 40 minutes. But with this new-type corrugated brick pack, one man can do the job in 15 minutes.

Fresh from the kiln, brick are snugly steel-strapped into corrugated packs 500 at a time. After that, to distributor, to dealer, or to builder, no picking up brick one by one—they can be safely delivered in packaged lots all the way to the job.

Besides effecting handling-cost economies of 80%, the corrugated brick pack practically eliminates breakage. Waste is reduced. Quality is unim-

paired in delivery. And builders find new incentives for using brick as a basic building material.

Although adding almost nothing to the weight and cost of the package, corrugated provides all the strength needed for complete protection of the brick. In addition, it gains for the users the advantage of easy brand-identification through side printing.

If you sell a heavy or bulky product,

chances are a corrugated package can help bring you worth-while economies. Talk with your nearby boxmaker. You'll find him listed in your classified telephone directory under "Boxes—Corrugated."

Langston doesn't sell corrugated; only the machines that make it. Since 1902, these machines have led the field in efficiency and dependability. Samuel M. Langston Co., Camden 4, N.J.

THINK FIRST OF CORRUGATED



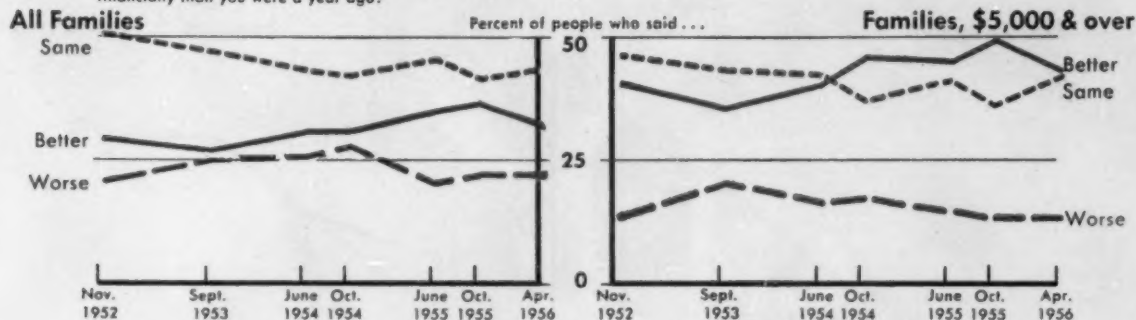
LANGSTON

Corrugated Container Machinery

Consumer confidence was depressed by these factors:

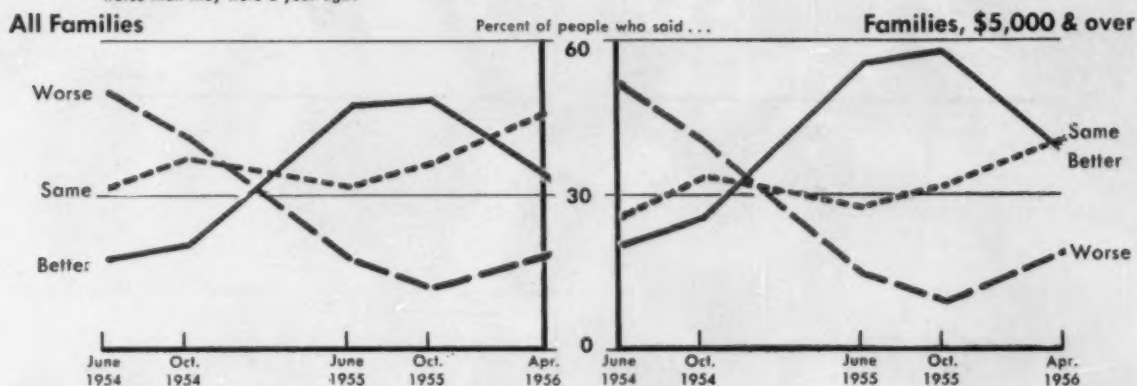
Fewer say they have improved financially in a year's time

Were you and your family better off or worse off financially than you were a year ago?



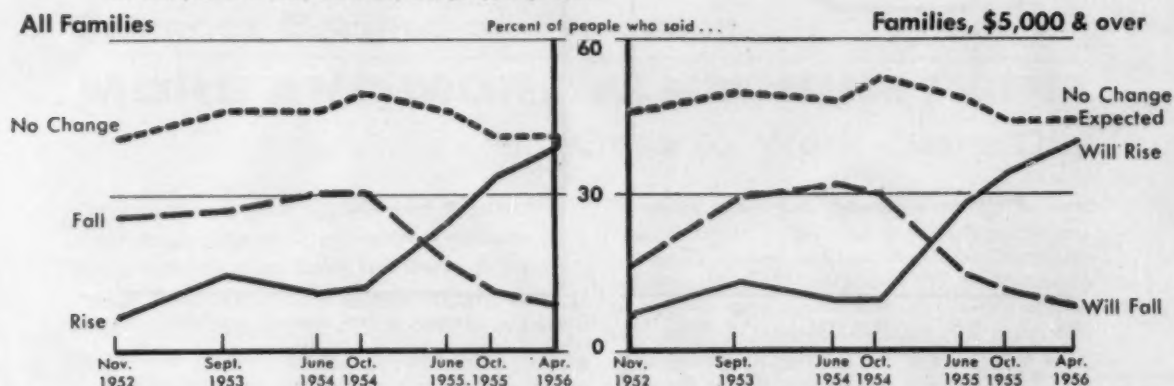
Fewer think that economic conditions generally have improved

At present, are business conditions better or worse than they were a year ago?



More people think prices will rise

What do you expect prices of household items and clothing will do during the next year or so—stay where they are, go up, or go down?



Data: Survey Research Center.

spective new car buyers think of buying a 1957 model car. Accordingly, fewer would-be buyers than usual say that they will go ahead with their purchase 'soon.' That the longer-range automobile demand continues strong is also

suggested by the following finding: When car owners who did not express any purchase plans for the next 12 months were asked when they would trade in their car, the answer 'within two years' was obtained with the same

frequency in May, 1956, as in 1955 or 1954."

The record on autos raises a question about the accuracy of the Michigan consumer surveys when used to predict sales of any single item such as

People still have confidence in the future . . .

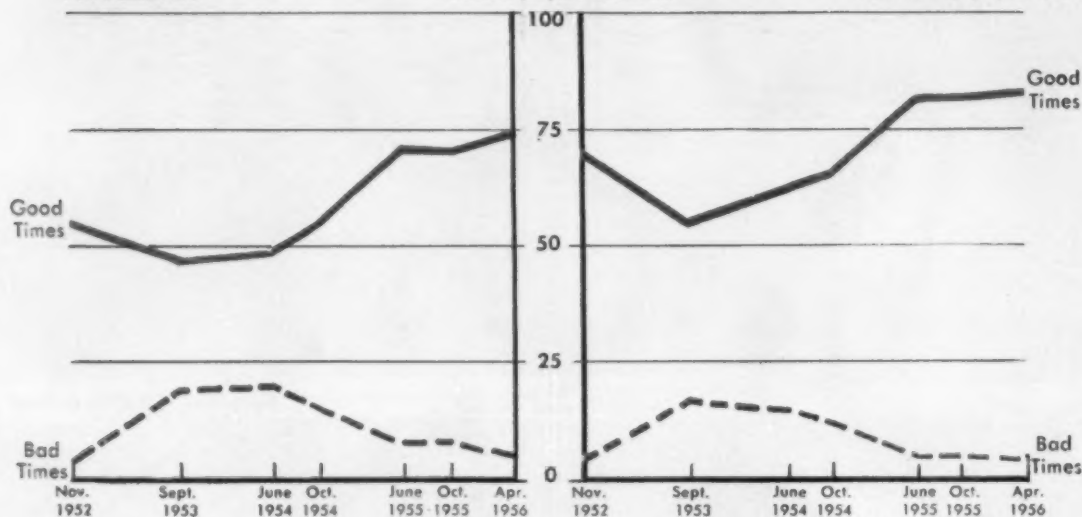
. . . regarding the economy as a whole during the coming year

Do you think that during the next 12 months we'll have good times financially or bad times?

All Families

Percent of people who said . . .

Families, \$5,000 & over



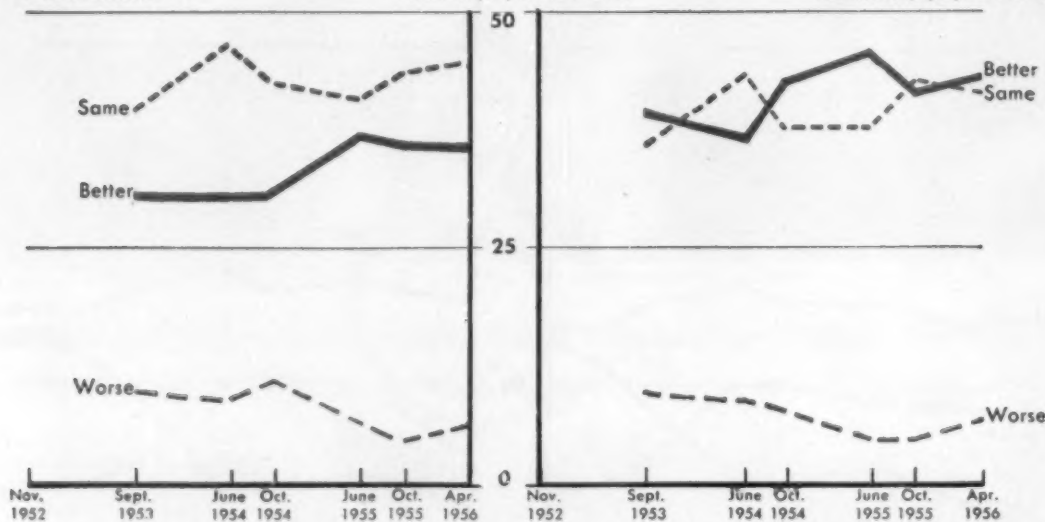
. . . and their own financial outlook a year from now

Do you think that a year from now you people will be better off financially, or worse off, or just about the same as now?

All Families

Percent of people who said . . .

Families, \$5,000 & over



Data: Survey Research Center.

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automobiles, appliances, or houses.

The Michigan survey taken at the end of 1954 underestimated the car market during the following year. According to that survey, car sales in 1955 would have been at about the same level as the year before. But car sales went through the roof in 1955. About

the only satisfactory explanation of what happened is that Detroit's enormous sales push in 1955 changed the consumer's mind and hustled him into buying.

However, it looks as though the survey for the Federal Reserve Board last winter—which reported that consumers

intended to buy cars at the same rate that they had said they would the year previous—has proven about right.

Houses. Intentions are still high, but a little off—again because of a drop among the people with \$5,000-or-more income.

Home improvements. Plans for addi-



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Leading manufacturers of aluminum paints use pigments from Reynolds. If you would like the names of these users of high quality Reynolds pigments write to *Reynolds Metals Company, P.O. Box 1800-PA, Louisville 1, Kentucky.*

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Vertical Turbine Pumps
Water Treatment**



tions and improvements "remain substantial," says SRC.

Major appliances. "No substantial changes" from mid-1955. There are, however, two weak spots—TV sets and ranges. Again, the upper-income people are responsible.

The slight drop in buying intentions is partly responsible for the sag in the index.

The index of consumer confidence (chart, page 92) is arrived at by taking the answers to eight questions—involving personal financial situation, views of the general economy, buying intentions, and so forth—and weighting them.

II. Why the Sag?

One of the chief reasons for the drop in the index this time is people's answers to the questions about their own financial situation. Clearly, consumers aren't quite so satisfied on this score as they were in the summer and fall of 1955. The percentage of families who said they were better off than a year earlier dropped off slightly—from 36% in the fall of 1955 to 32% this time.

"However," notes SRC, "reports of improvement in the family's financial situation still exceed reports of reverses by three to two. This is a more favorable ratio than was found to exist either in 1954 or in 1952."

• **But No Worse Off**—It is also a noteworthy fact that between the two surveys there is no increase in the number of people (19%) who report they are "worse off." In other words, there has been an increase in the number of people who report that their financial situation is the same as it was a year ago (from 41% to 44%). This is the shift that helped pull down the index—and it is another illustration of the point that the leveling-off of the economy has in turn brought about a leveling-off of consumer confidence.

This tallies with what consumers reported to SRC about changes in their actual dollar income. In October, 37% said they were making more than a year ago; 35% so reported this time. But there was no increase in the number who said they were making less. Once again, however, the \$5,000-and-over people were the most pessimistic. Only 45% said they were making more money, compared with 50% last time.

• **Paler Outlook**—Consumers' opinions about the economy as a whole also helped pull down the index.

In 1955, nearly one-half of consumers had answered that times were better than a year earlier; this time the proportion dropped to one-third. And there was a considerable increase in the opinion that no change had occurred. There was a small increase in the number of people reporting that they

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thought that times were worse—and once again, the group mainly responsible for this dip is the upper-income group.

The third factor that depressed the over-all index is the expectation about price increases.

There has been a steady upturn in the number of people who look for a rising price level for household goods and clothing. A year ago, only 25% looked for a rising price level. Six months ago this had increased to 33%. And this time no less than 39% foresee increasing prices—and the prospect of rising prices can be a deterrent to buying.

In general, however, the researchers did not find that there has been any significant shift in opinions about whether this is a good time to buy. "There is no evidence of a change to outright discontent with buying conditions among a significant proportion of consumers," says SRC. "But the survey does suggest that the positive stimulus of satisfaction with 'good buys' is no longer powerful."

III. Upper-Income Pessimism

It is quite clear that the upper-income people are the ones who have pulled down the general level of optimism. This naturally raises the question: What's bothering them?

Their present corner on pessimism is particularly interesting in view of the fact that back in 1954 it was this same group whose buoyancy constantly pushed the index up. In large measure, the good spirits of the upper-income people reflected the end of inflation. This tended to help the upper-income group more than it did the lower-income people who, by virtue of being largely wage-earners, had kept abreast of inflation through wage increases.

• **Wiser Heads**—One of the reasons that the upper-income groups are more pessimistic today appears to be simply the fact that they are generally better informed about the economy than they were. They read more, hear more, have more access to information. So they are more aware of the soft spots.

However, SRC tends to discount the significance of this: "The very fact that frequent and manifold information reaches these people may make them susceptible to more rapid and less enduring changes in sentiment than other people."

In any case, whatever income groups they belong to, consumers seem to have no serious doubts about the future of the economy, at least for the next year or so. As the charts on page 98 show, they are just as confident as they were a year ago that a year from now they personally will be doing fine—and so will the economy. **END**

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In Marketing

• • •

Tequila, the Cactus Brew, Comes Under the Connoisseur's Nose

After the vodka boom comes tequila—at least Young's Market Co. of Los Angeles hopes so. Young's, the original Southern California distributor for Smirnoff Vodka (BW—Jun. 9 '56, p64), has signed a 10-yr. contract as sole U.S. distributor for Jose Cuervo Tequila Co., which controls about 65% of this Mexican cactus brew and is the only large-scale exporter.

Young's has been selling tequila for nearly 16 years—but so far mainly to the Mexican population in the U.S. Now it is putting up some \$200,000 to promote it to the U.S. connoisseur.

Increased tourist trade to Mexico, the company thinks, is giving Americans a taste for tequila. Last year, Young's sales in the U.S. increased 36%—and this is just a start, officials say. Young's built a bottling plant in Los Angeles to handle increased demand. And Guillermo Freytag Gallardo, president of Jose Cuervo, is going to double his current annual output of 1-million gal. by the end of the year.

Like vodka, tequila will be promoted as a drink that mixes with almost anything. (Mexicans take it straight, with a lick of salt and a bite of lemon.) Young's first concoction is called the Matador—tequila and pineapple juice with a dash of lime.

One hazard tequila faces is price: around \$5.75 to \$5.95 a fifth. But an import tax of \$13.50 a gal. makes price-cutting difficult.

• • •

Broadcasters and Film Makers

Hit Out at Community TV Systems

While the big TV nets were pleading their case in Washington last week (page 104), their smaller brothers, the community antenna systems, faced some critical problems of their own.

The National Community Television Assn. at its fifth annual convention in Pittsburgh admitted its members are at a crossroads, though by no means facing annihilation.

There are an estimated 500 such systems, worth some \$55-million, in the U.S. today. System owners build master antennas on high spots, bring TV to some 2-million valley dwellers who otherwise would never get a picture. The antenna picks signals from TV broadcasting stations, relays them along a coaxial cable into a town, delivers them to individual homes. Subscribers pay anywhere from nothing to \$130 to hook up, and from \$3.50 to \$6 a month for the service.

TV broadcasters scolded the system operators for violating their "property rights" by retransmitting signals without license or permission. TV film producers also feel their rights—and copyright laws—are violated since the

systems don't pay royalties on film pickups. Film producers are preparing to take their case to court. Antenna system operators argue that signals on the air are free, and they don't need permission.

Possible regulation by Federal Communications Commission also threatens the systems. Recently, 12 broadcasters in the West filed a petition against 280 operators, asking FCC to declare them common carriers. California and Wyoming both have set up state regulation of the community operations as intrastate common carriers. Operators are challenging this regulation in California courts, and will challenge the Wyoming regulation, too.

Despite the threats, operators aren't despondent. They feel they have an ace in the hole in closed-circuit TV—which might work on a pay-TV basis, perhaps in cooperation with home town movie houses.

• • •

It Was a Record Year

For Dry Goods Retailers

Department stores and specialty stores turned in their best sales performance ever in 1955, with a 4% increase over-all. This cheerful statistic comes out of the Controllers' Congress of National Retail Dry Goods Assn., in its annual report, Departmental Merchandising & Operating Results.

According to Malcolm P. McNair, Harvard Business School professor of retailing, who reported to the Controllers' Congress, the gain was 6% if you count in the business done by department stores' new branches but exclude the specialty stores.

Main credit for the better sales picture goes to the consumer's continuing urge to upgrade. The average salescheck says Controllers' Congress, was 22¢ higher than in 1954. It is now a record \$4.73.

Thanks mainly to the higher volume, payroll and operating expenses took a smaller slice of the gross. Profits from merchandising operations came to 3%, against 2.7% in 1954. After taxes, profits stood at 2.3% of sales, up 0.3% from 1954.

The one sour note is getting to be familiar. Despite gains, department stores proper again failed to keep pace with all retailing, though their 5.9% share in 1955 was only 0.1% lower than in 1954.

• • •

Marketing Briefs

"Bypassing" is worrying appliance dealers more than ever. National Appliance & Radio-TV Dealers Assn. has sent questionnaires to 15,000 dealers to find out whether contractors' purchases of appliances for new homes are hurting dealers, whether builders bypass dealers, how much service builders offer, and the like.

Quantity discount plan of candy maker Stephen F. Whitman & Sons results in discriminatory prices for favored customers, mostly chains, the Federal Trade Commission charges. FTC says discounts are based on the total purchases of an entire chain. Thus, FTC says, a single chain store may get a 10% discount even though it sells less candy than an independent that gets only a 4% discount.



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Frank Stanton, president of CBS, places his case before an investigating committee as the nation's three . . .



TV Networks Take the Stand

The nation's three television networks, which have been under sharp attack, got a chance to defend themselves last week. Leaders of the networks—Frank Stanton of Columbia Broadcasting System, Robert W. Sarnoff of National Broadcasting Co., and Robert E. Kintner of American Broadcasting Co.—placed their cases before the Senate Interstate & Foreign Commerce Committee, which is investigating the TV industry.

After four days of testimony, results were uncertain, but the situation stands something like this:

- Sen. John W. Bricker of Ohio, senior GOP committee member, still wants to extend Federal Communications Commission regulation to the networks. But he got little support from his committee.

- Judging from questions raised by the committee, its members are giving some thought to restricting network option time arrangements with affiliated stations. The network chiefs maintain that this practice is vital to their operations.

- FCC is even more on the spot to come up with an allocations plan to relieve the TV shortage in important markets.

- The networks' testimony—together with voluminous supporting documents—is the most detailed presentation of their operations that has ever come out.

- Interest—The hearings covered a lot of ground, little of it new. In general, the networks tried to lay to rest charges that the nets control the TV industry through their hold on programming, their option time arrangements with affiliates, and their "must buy" requirements (a minimum package) for advertisers. All three leaders—particularly Kintner, whose network has suffered

from the station scarcity—declared that these charges stem mainly from the fact that there aren't enough stations to give competitive program suppliers access to the airwaves.

Interest in the hearings was high. Kenneth Cox, committee counsel, had a long list of questions. Members broke in frequently, particularly Chmn. Warren G. Magnuson (D-Wash.); John O. Pastore (D-R. I.), who presided; and Charles E. Potter (R-Mich.), who conducted the committee's allocations hearings in 1954.

Representatives of FCC were in the audience, too, and more important to the nets, Justice Dept. investigators were present. The Justice Dept. has been quietly looking into network operations for possible antitrust action.

- Defense—The networks grounded their testimony in strong statements about the value of networks to the TV industry and to the public. They stressed the fact that the nets supply live, national TV service—something no individual station or program supplier can do. They emphasized the part that nets have played in developing TV through contributions to technology, by financial risks, and in pioneering imaginative programs. Stanton summed up the nets' role this way: "Clearly, it was the networks that provided the driving force that brought together the families in the home, the station licensees, the receiver manufacturers, the performers, producers, and writers, which led to the explosion of television on the American scene."

- Chief Critic—From the start, Bricker has been the committee's chief critic of the networks. Last April, he filed a report, *The Network Monopoly*, charging CBS and NBC with having "an unprecedented stranglehold on the nation's TV industry" (BW—May 5 '56,



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"... the networks denied any policy of excluding independently produced programs ..."

TV NETWORKS starts on p. 104

p32). The senator also has introduced a bill calling for FCC regulation over networks (at the present time only stations are regulated).

The networks urged the committee to avoid such a regulation. Sarnoff told the senators that if networks were government-regulated, "the whole delicate balance of network advertising, affiliation relationships, and service to the public could be upset."

• **Program Control**—This touched on one of the hottest issues. The networks have clashed with advertisers and their agencies over control of programs. Advertisers say they are forced to take what the net says is best, rather than create their own programs. And independent program producers complain that the nets favor their own shows.

The networks emphatically defended their right to control programming, but denied any policy of excluding independently produced programs. Stanton said that CBS is programming fewer of its own shows. Sarnoff pointed out that NBC produced less than one-third of its schedule. And Kintner said that ABC produced only 13% of its programs last year.

But it was clear that the primary source of network strength in the TV industry—as well as the source of many of its problems—is the network's role as program supplier. The nets provide programs that many people want to see. That's why an affiliation contract—even with option time clauses—is so valuable to stations. And it is what makes advertisers, even with "must buy" arrangements want to advertise over the nets.

• **Option Time**—The networks dealt with charges that option time and "must buy" arrangements are monopolistic. CBS filed lengthy legal briefs with the committee. Cox apparently was trying to establish that affiliates would clear network programs even without option time clauses in their contracts. But the three presidents insisted that option time arrangements should remain unchanged.

The three said the "must buy" stations are the basic number required to assure national coverage and to provide the nets with enough money to maintain net service. They cited, for example, the heavy cost of maintaining AT&T interconnections, for which CBS spends \$13.5-million a year, NBC \$14-million, and ABC over \$6-million.

• **Financial News**—The Bricker report accused CBS and NBC with having an undue profit return in proportion to investment. Stanton asserted that such

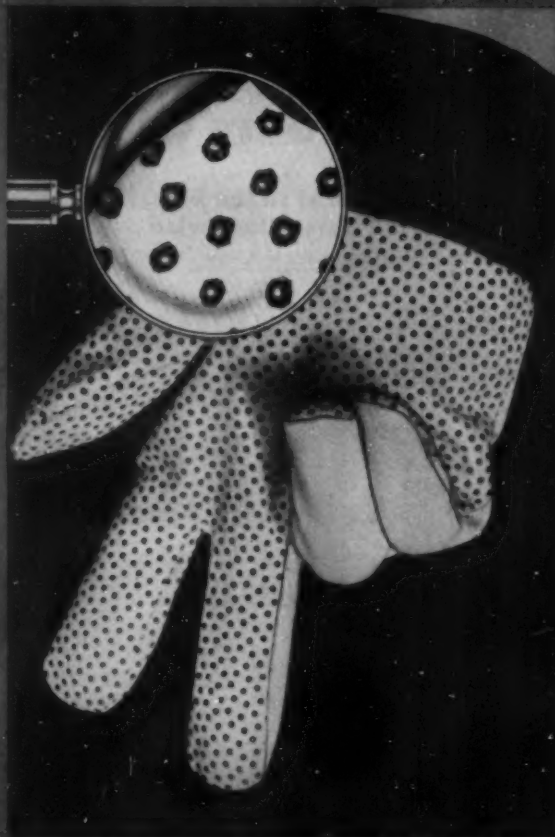
a measure was inapplicable to an industry "where physical investment plays such a relatively minor part." Even so, he compared CBS TV with other industries to show that the 108% return on investment cited by Bricker was not unreasonable. Stanton also pointed out that last year CBS TV plus its four owned stations took in about 20% of network TV's total revenue. He said that in 1954, CBS Television's profits were only 4.6% of sales.

Sarnoff disclosed figures on NBC finances never before made public. They showed that between 1947 and 1954, NBC Television network sustained a cumulative loss of more than \$4-million. It didn't make a yearly profit until 1951, and last year was the first to show a cumulative profit. Of course, the owned stations were profitable during most of this time. Sarnoff concluded: "These facts show that any claim of exorbitant profits for this high risk business is not in accordance with the economic realities."

• **More Stations**—All three made it clear that they felt that a lot of the complaints against nets would subside if enough stations were made available to permit other program suppliers more outlets. Kintner told the committee, "There is a kind of monopoly in the television business, but it is a government-created monopoly based on the lack of at least three comparable TV stations in the top population markets of the country." He urged that FCC be given "a strong Congressional mandate" to speed up allocations and to devise new plans to give at least three stations to the larger markets.

• **In Process**—Even as he spoke, FCC was meeting a few blocks away to try to hammer out its allocations plan. The heart of the problem is to find a way to utilize the 70 channels of the ultra high frequency band to supplement the 12 very high frequency channels. VHF alone hasn't provided the country with enough stations, and UHF stations—with some exceptions—operate at an economic disadvantage.

FCC was expected to reveal results last week, but held up the announcement pending further work. Reports are that it will take steps such as cutting back on mileage requirements between some VHF stations, de-intermix (make a market with either all VHF or all UHF) in some cases to bring full competition to the country's top 100 or so markets. FCC also will explore the possibility of converting some large section of the country, say the Northeast, entirely to UHF. **END**



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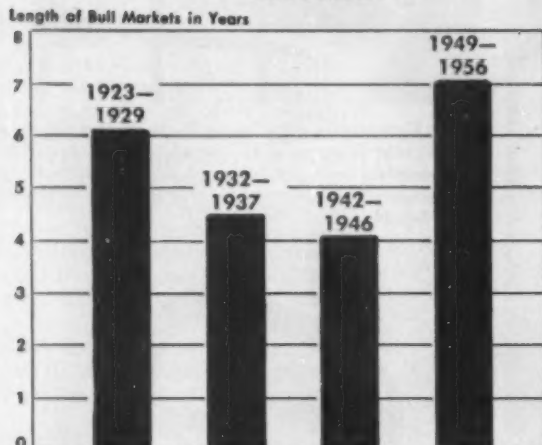


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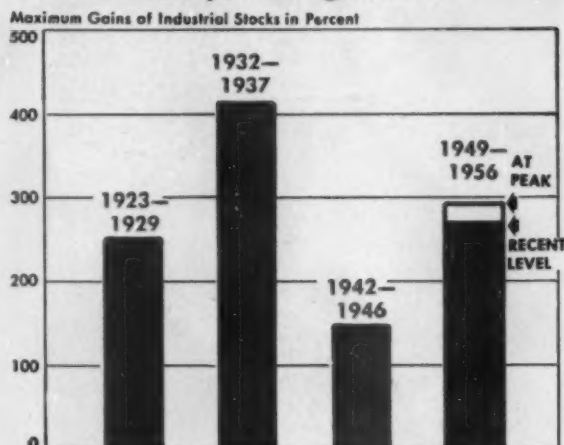
FINANCE

THE CURRENT BULL MARKET: Now Seven Years Old...

... The **LONGEST**
on record ...



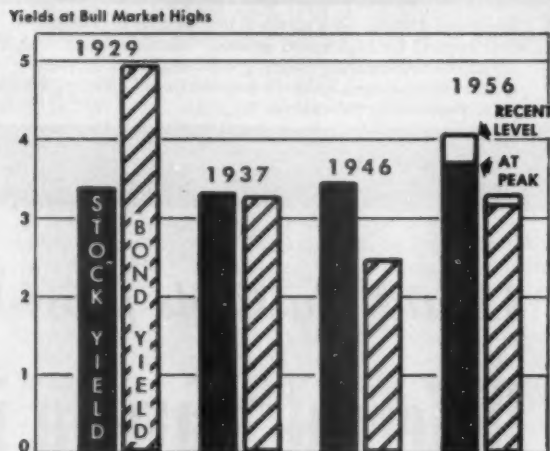
... And next to the **BIGGEST**
GAINER percentagewise ...



... Yet the industrials' price-earnings ratio is **STILL LOW** for bull market times ...



... And the spread between stock and bond yields continues **UNUSUALLY WIDE** for such a period



Data: Standard & Poor's Corp. (Daily Industrial Stock Price and Other Indexes); New York Stock Exchange.

©BUSINESS WEEK

Its Age Is Beginning to Show

This week, the bull market that began in June, 1949, enters its eighth year. It celebrates its anniversary with the happy complacency of the biggest and the best—the biggest in the sense of the longest bull market on record and the best in the sense that it has been the richest. (The 1932-1937 bull market

showed higher percentage gains for the averages, but it started from next to nothing.)

Most market analysts consider the June, 1949, low as the starting point for this most mammoth of all bull markets, but a hard-bitten few claim that it is even bigger than generally

believed. They say that our current bull market started on Apr. 28, 1942, when Standard & Poor's index of 50 industrial stocks stood at around 75, just about 400 points under its recent level, and 450 below the all-time high reached nine weeks ago. The biggest indictment of the 1942 date as a starter is the sharp

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When the Pennsylvania Salt Manufacturing Company needed additional capital to help finance a new and dynamic expansion program, the Company's top officers consulted Kidder, Peabody & Co. Our recommendation that Pennsalt issue 25-year Sinking Fund Debentures was based, among other factors, on a careful analysis of the Company's capital structure, on the relative stability and anticipated growth of the Company's business, and upon market conditions then current for both debt and equity capital.

This issue, which was successfully underwritten by a group of 26 investment firms headed by Kidder, Peabody & Co., is but one of many underwritings of all types of securities which we have managed in our 91-year history.

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decline in 1946, followed by nearly three years of sideways meandering.

• **Stability**—No matter how you figure it, this bull market is an eye catcher. Since that June low in 1949, there have been only four times when the market was rocked back by a correction of 10% or more—probably a record in stability. The longest correction was the nine-months slide from yearend, 1952, to September, 1953, when the market dropped 15%. The latest correction is the one we have just experienced—an 11% drop from the early April high this year, to the May low.

The reasons for the stability are part of today's market climate: greater attraction of capital gains over income, restrictions on short selling, and relatively high margin requirements.

But stability, the absence of value-shattering swings such as demolished earlier bull markets, is just one of the stickout traits of this market. A very important characteristic is the pervasive role of the institutional investor. While total institutional purchases of common stocks haven't really mushroomed in the seven-year life of the bull market—varying between 12% and 18% of all shares traded—the importance of their buying is felt strongly because for the most part it is concentrated in those good-grade stocks that make up most indexes and averages.

• **Selectivity**—The fact that institutions have concentrated their tremendous buying power on a relatively few issues has built another outstanding characteristic of the market as it stands today—its selectivity. The current market is the most highly selective in history, one in which averages no longer mean much and many of the traditional ideas of what is a good buy have had to be scrapped.

The results of this selectivity show in the performance of various stock groups through the life span of the market. If you take the industrial index as a yardstick, you get a striking measure of where the gains have been. The industrial index is up 275% since 1949 (up 295% at its record high). A handful of stock groups—half a dozen—are up 400% or better: aircraft manufacturers, aluminum producers, metal fabricators, office equipment makers, paper producers, and tire manufacturers. These are the real high-fliers, the standard-bearers of the biggest bull market.

Still doing better than the average, but up less than the elite, are autos, trucks, building materials, chemicals, bituminous coal, copper, electrical equipment, machine tools, machinery, mining, crude oil producers, integrated oil companies, radio and TV, and steel makers.

These 20 groups are, for all intent and purpose, the bull market. Individ-

Is There a Wage-Price Spiral?

WITH another "round" of wage increases under way, with prices rising, and with the Federal Reserve apparently following an anti-inflationary policy, discussion of the "wage-price spiral" has become active again. Is the spiral entering a new upward phase? Will the impact of tighter money cause wage-price inflation (if it is present) to give way to recession? Or is the whole idea of a wage-price spiral no more than a myth? Do wage rates really tend to rise faster than productivity, pulling prices up with them?

If the official figures are to be relied upon, it is beyond doubt that the rise in money wages since World War II has exceeded the gain in productivity, although not by so much as is sometimes thought, and although most of the disparity developed during the single year 1951. It is also beyond question that the resulting rise in unit labor cost has been roughly paralleled by the increase in the price of the product.

This means that the increase in money wages over and above the rise in productivity has been largely or wholly lost to the workers, since they have to pay correspondingly more for the product.

Long-Term Tendencies

Other studies covering longer periods indicate that wage increases in excess of the rise in productivity tend to be absorbed in the price of the product, limiting labor's real gain to the actual increase in average output per man-hour. Such studies have been carried back far beyond the war and postwar years of strong unionism. They have been carried through periods of prosperity and depression, through periods of rising and declining prices, production, employment, wage rates, and hours of labor, and even through periods of price

and wage controls. They show that disparities between the relative movements of labor costs and prices are only temporary. Not only are labor's gains limited by the rise in productivity, but they occur as a natural accompaniment of the rise in productivity.

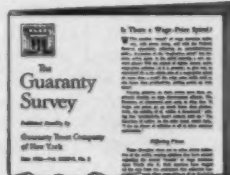
What the Record Shows

The record shows that money wages have risen faster than productivity and that the average unit labor cost has risen accordingly, not only during and since World War II but for some years before. It shows further that changes in the unit labor cost tend to be accompanied by corresponding changes in the price of the product, wiping out labor's apparent gains and serving only to cheapen the dollar. It shows that labor's real and lasting gains come from rising productivity, and from this alone.

Since World War II this necessary correspondence between productivity and real wages has involved increases in both wages and prices. In this sense, there is undeniably a wage-price spiral which is tending to cheapen the dollar and which can be eliminated only if wage increases can be held in line with gains in productivity. Signs that this spiral is now again in an active phase raise the question as to how a monetary policy aimed at a stable dollar will deal with it, and what the probable effects on business may be.

From the June issue of THE GUARANTY SURVEY, monthly review of business and economic conditions published by Guaranty Trust Company of New York.

The complete issue is available on request.



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ual issues in other groups have skyrocketed, too, but the 20 are the ones that provided the oomph. Looking them over, it's easy to spot another characteristic of the bull market: The buying has been centered on capital goods shares. The closest thing to consumers groups you can find are the consumer durables: autos, trucks, tires, and radio and TV.

• **Majority Lags**—These 20 groups are the leaders, and the other 34 groups in Standard & Poor's group indexes are the laggards. They include a broad range of consumer products, as well as agricultural equipment, textile weavers, lead and zinc producers, natural gas companies, and gold mining companies.

The concentrated buying in a select handful of high-grade capital goods shares has led to what Arnold Bernhard, of Value Line Survey calls "an anomalous and unprecedented condition in the stock market today. Big company, big issue shares are speculatively priced, whereas most of the speculative, less well-known stocks are conservatively priced." The focus on the blue chip giants of industry for the past seven years leaves 3% of corporations on the New York Stock Exchange representing 50% of all the wealth on the Big Board today.

• **Criticisms**—The fact that so much institutional—and individual—buying power has been concentrated on a relative few issues, thereby making the market abnormally sensitive to the price fluctuations of the minority, is a major criticism of today's bull market. But it's just one of many. In fact, with astronomic highs and a subsequent 11% decline just behind us, many Wall Streeters are asking: Is this the last birthday of the biggest bull market in history?

Those who answer yes can marshal some strong arguments—none stronger than the longevity and hardness of the bull market itself. For the first time since 1949, or at least since 1953, there are powerful reasons behind the bears' sentiment, other than the traditional conviction that a bull market, phoenix-like, must destroy itself in order to rise again from its ashes in a new, and stronger, upward move.

Basically there are two ways to look at the stock market: one could be called a microcosmic, or internal approach, the other the macrocosmic, or external. The first deals entirely with the market itself, its action, its power and momentum, and its anatomy. The other derives from a consideration of everything that could influence the market in any way, from business prospects generally to an oil strike on the Ross Ice Shelf.

• **Probing**—The market technicians currently find signs of weakness in these market factors:

- At its May low, the market was some 13 points below the average for the previous 200 days—on most occasions such a rupture of the 200-day moving average has meant trouble.

- Trading volume has dwindled to next-to-nothing on recent market rallies, and the market has had trouble getting within striking distance of former highs.

- The quality of stocks that have been liquidated lately is so much higher than the quality of those being bought.

- Heavy buying has appeared, on balance, in odd-lots—less than 100 share blocks. (To the market technician, this is always a sign of trouble because it indicates that the "little investor" is really interested in the market, and to the technician, the little investor is always wrong.)

- **Outside Influences**—Besides the market's internal condition, there are today some troubling factors: soft spots are visible in the economy, such as in autos, agricultural equipment, and residential building; consumer credit has been outstripping gains in retail sales; inventory accumulations are hefty; money is tight; prices for some commodities and steel scrap are weakening; and industrial production has stayed on a plateau for nearly a year without any upward push.

Two other factors are of vital importance: (1) Pres. Eisenhower's health and its effect on his final decision whether or not to run in November; (2) Washington's growing uncertainty about how to meet the Russian peace offensive.

How important to the stock market is Eisenhower? Most Streeters would agree with this answer: "Barring a war or an absolute refusal of consumers to spend money, the only thing that could really demolish this market is for Eisenhower to step out of the White House, or be taken out by a new bout with sickness."

- **Nervous**—The institutions, the pivotal force in the greatest of all bull markets, are showing signs of skittishness. Recent reports on portfolio holdings indicate some liquidation, shifting of funds into government issues, bonds, and cash. The emphasis is shifting from appreciation and growth to protection and security. Big blocks of stock are being liquidated via secondary offerings. Even where institutions are keeping their funds in equities, they are looking away from the favorites of the last seven years, and toward "more stable stocks like banks, utilities, and food companies."

- **The Optimists**—Wall Street's bulls aren't rolling over and playing dead, even though opinion is growing that the market, at best, is in for a long consolidation, like the one in 1951-53. "The bull market is far from dead," says one. "Why, it hasn't yet caught up with the inflation resulting from the

3-for-1 split in the dollar during World War II, and here it is facing another wave of inflationary forces." Capital spending plans, strong consumer spending, and good business generally, despite the various slowups are all cited as signs of strength by the Street's optimists. But most of these admit that as far as the "blue chips in the averages are concerned, the bull market is probably over." In other words, the market's ingrained selectivity may be extended to a handful of select, secondary issues.

Confidence is still the keystone to the strength of the market, and bullish Streeters won't admit that confidence has been measurably shaken. "Investors today are more sophisticated than at any time in the past—they won't be stampeded into selling because of minor dips in the averages as they might have been in '29 or '37," says one Streeter.

But the skeptics counter by suggesting that the biggest of all bull markets may not breathe its last this time amid the jangling of margin calls, frantic efforts to execute stop-loss orders and an irresistible wave of sell orders. "To paraphrase a poet," says one old-time stock broker, "this market may end, not with a roar, but a whimper."

FINANCE BRIEFS

A new Canadian investment trust—Canadian International Growth Fund, Ltd.—will soon offer shares to the public. Wall Street's Hayden, Stone & Co. heads the investment banking group that will handle the 650,000-share flotation. CIGF's portfolio manager will be the U. S. investment counseling house of Van Strum & Towne, Inc.

• **Credit life insurance** at the yearend covered some 28-million individual loans and time sales, about half of all outstanding consumer credit, says the Institute of Life Insurance. The policies totaled \$14.8-billion, compared with \$365-million in 1945. Last year the average amount covered per policy was \$530, slightly above the 1954 figure and 47% higher than five years before. The institute adds that \$50-million of death benefits, on nearly 100,000 policies, were paid last year.

• **Another billion-dollar bank** is being formed via a merger in Detroit. The combine is headed by the Detroit Bank of Joseph M. Dodge, Special Assistant to Pres. Eisenhower and former Director of the Budget; others in the deal are the Detroit & Wabec Bank & Trust Co., the Birmingham National Bank, and the Ferndale National Bank. The new bank's name would be Detroit Bank & Trust Co.



Thousands of tons of rock buried 500 feet of Anaconda shovel cable in an open pit mine—yet the cable continued to work.

The electric cable that won a landslide victory



Anaconda cable powers huge shovel

IT'S A RUGGED LIFE. The cables that feed power to giant shovels in open pit mines lie right on the mine floor. Trucks run over them; rain, sleet and sun beat on them.

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tion of Anaconda shovel cable was buried under thousands of tons of rock. The cable and shovel it supplied continued to operate.

Anaconda's unique experience in both metals and cables—its advanced engineering and manufacturing ability—have been responsible for many improved, better working electric cables for severe use. Examples: A new line of portable cords for railroads, docks and heavy industry; a tougher longer lived shuttle car cable for mines.

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American Brass Company and the Anaconda Wire & Cable Company — serve you with the broadest line of nonferrous metals and mill products in the world. Check with the *Man from Anaconda*—he can help you arrive at the most practical and economical answer to many of your metal needs—whether you require a special alloy or shape in copper, brass or bronze—or an electrical conductor of copper or aluminum. The Anaconda Company, 25 Broadway, New York 4, New York.

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CATTLE and cotton once dominated Arizona. A ranch with less than 1,000 head of cattle is small.



COPPER was almost the only non-agricultural industry. At left is Phelps Dodge mine at Ajo. Now . . .

GROWTH is coming most rapidly in cities — particularly in Phoenix (right) and Tucson.



Arizona Hitches

ARIZONA was copper, cattle, cotton, and cactus. Now Arizona is change. The sleepy cities of the 1940s are marching out over the desert in headlong growth. The muscle and endurance that marshalled cattle in blistering sun is giving way to the quiet probing of a research engineer with a computer. And Arizona's whole life and way of living is changing.

For Arizona has become an industrial state—manufacturing is now its largest single source of income. It has hitched its stagecoach to electronics. It is shifting its frontiers from acreage to ideas.

• **Case Study** — Arizona is a case study in growth — it has more than doubled its population since 1940, and the rate of growth seems to be rising. Significantly, the most rapid growth is coming in the state's two big cities, Phoenix and Tucson.

The growth has meant outlanders everywhere. The largest single group — both of new migrants and of vacationers — is now coming from California. But many of them are Easterners. And with them come ideas and



Its Future to Ideas and Industry

money. The whole process is creating patterns of living that may put Arizona years ahead of the rest of the country.

- **New Prospect** — Arizona's growth has come in surges. Coronado's men marched through its valleys and canyons in 1541—seeking mountains of gold in the Seven Cities of Cibola. Copper men opened the hills and cattlemen the valleys in the late 1800s—bringing bonanza and opera stars to towns like Tombstone. Pima cotton—long-staple premium fiber—made fortunes for irrigation farmers during and after World War I. All along, the “lungers”—people suffering from asthma and tuberculosis and from arthritis and other diseases—made up a steady flow of newcomers seeking to regain their health.

The result was a farm and mining state—small communities clinging to the hills, vast ranches, and broad panoramas of irrigated acres. But since World War II, the state's whole prospect has changed—and the future promises more sweeping change.

For the story behind that change, turn to next page.



ELECTRONICS plants like Motorola's in Phoenix (above) mark Arizona's new frontiers.



INDIAN ARTS always catch the new-comer's eye. Here Charles Loloma, a Hopi, demonstrates his potter's skill.



DESERT LIVING even if it boils down to hamburgers on the patio, is one reason Easterners flood into the state.



ENGINEERS are key men in Arizona's industrial growth. The men above are students from the University of Arizona in Tucson.

CULTURE means Sunday painters and striking architecture—such as the new public library (in background) in Phoenix.

Desert living plus metropolitan tone bring fresh growth for Arizona.

Story starts on page 114

TWO DEVELOPMENTS—air conditioning and the airplane—opened the future wide for Arizona. Things began to pick up there about 1940.

For the first time, a man could work, and his family could live, in reasonable comfort through the four months of summer when temperatures soar above 100 and the roads swim in mirages. And for the first time, a businessman from New York or Chicago could count his travel time in hours rather than days. By 1944, the U.S. was training pilots by the thousands and GIs by the tens of thousands in Arizona—and many of them came back when the shooting subsided. The stage was set.

The postwar boom broke over what you might call a case of arrested development. It had been a lot easier for the westward-moving pioneers to develop Texas and California, both of which had ports, both of which hit oil early. Even at war's end, Arizona still showed many of the earmarks of countries in early stages of development. It had vast resources—still largely untapped—in land and metals, asbestos, coal, silica sands, and limestone. And it had many of the characteristics of a two-class economy. There were the copper and cattle barons in one, the working people in the other. The middle class was inconspicuous.

• **Key Spots**—Arizona's story centers on Phoenix and

Tucson. As one economist puts it: "Arizona has 73-million acres. From the standpoint of economic interest, you could throw away 70-million of them." The bulk of the interesting acres lies in the Salt River Valley—a roughly oblong-shaped area 25 miles north and south and running about 100 miles east and west. In its center is Phoenix. In the valley are something more than 50% of Arizona's people and its economic activity, with another 20% around Tucson and the University of Arizona, 122 miles south and east.

At the end of the war, Phoenix was still sleepy. The GIs had gone, the war plants built in the area had closed. Everyone remembered the 1930s when the Westward Ho Hotel, only eight blocks from the railroad that was the center of town, had had to close because it was "too far out of town."

Now the statisticians put Arizona (with Nevada and Florida) among the fastest-growing states in the nation. Its population has jumped from 500,000 in 1940 to more than 1-million now—and the rate of increase seems to be stepping up. Phoenix has long since outgrown its city limits. Population of the Greater Phoenix area has almost tripled since 1940.

• **Results**—The process has had far-reaching results:

• It has made Phoenix a sprawling middle-class city



BUILDING BOOMS Throughout the state as farmlands like these outside Phoenix become housing developments.

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"... no one can say quite what it was that triggered this midcentury spurt in Arizona . . ."

ARIZONA starts on p. 114

—and hung over it a thin haze, something that Phoenixians fear may become a smaze or smog similar to that which hangs over Los Angeles.

- It has shifted farmers 20 miles or more into new valleys, such as the Harquahala. There, 45 miles west of Phoenix, farmers have punched 50 wells (at up to \$20,000 each) down 1,000 ft. to tap water, have opened up 100,000 acres to cultivation, and have a new bonanza land.

- It has brought Phoenix and Tucson a new industry—electronics.

I. Behind the Growth

Economists have few theories as a framework to explain this kind of growth. In fact, when they met to consider the subject of growth formally last winter (BW-Jan. 7 '56, p98), the chief conclusion was that no one knew much about it. There are few answers as to what makes an area grow—no more than there are to what makes a growth stock in the securities markets. But some things stand out in Arizona's case.

Natural resources are only a small part of the answer. If they were dominant, India and China should be well off, Holland and New England poor. Arizona, with endless deserts studded and rimmed with mountains, had already developed its natural resources before World War II. Something like \$5.5-billion worth of minerals has been taken from its hills. But that didn't bring the kind of development it is getting now.

Capital, too, is only part of the story. Arizona, like the West generally, has been capital-hungry through most of its history. It's no accident that downtown Phoenix is dominated by the buildings of the two big banks, the Valley National and First National. They help finance, through small business loans, crop loans, housing mortgages, and consumer loans, a very big part of what's in Arizona. And their big job is to persuade outside investors to put their money into Arizona. Capital flows where it can work.

- **It's People**—In the end, it's probably people that make an area grow—just as it's usually management that makes a company grow over the long run. Arizona is getting the people—more come than can stay. It gets them partly because of the climate—Phoenix has 86% of average possible sunshine as against 66% in Miami. And there's very little really bad weather. The Phoenix airport has been closed only about 44 hours since 1926.

Or it may be that people, like money, flow to where there's opportunity. Phoenix has more than its share of the "shakers and movers" who get things done. And it has a labor force that measures very high in quality.

This is not the whole answer to the question of what makes a growth area grow. No one can say quite what it was that triggered this midcentury spurt in Arizona. We do know that growth tends to feed on growth, just as success breeds success. But no one knows how long that process will go on. Meanwhile, as Phoenix and Tucson show, the growth is exciting.

In Phoenix, practically everyone talks about relaxed living, the freedom, the casualness of the West, the friendliness of Arizona people, the joy of desert living. The talk is partly deceptive. The town is friendly. People do make big deals casually. But people work at fast pace, probably work longer hours than they did in Chicago or New York, and practically everyone is involved in community projects to "push this wonderful town."

II. Excitement in the Desert

The real key to living in Phoenix is excitement.

Partly, it's the excitement of a growth town. A woman who was merely number seven in the rear rank of her club in Mamaroneck, N. Y., finds in Phoenix that she's engaged full time in helping the light opera company put on four musicals a year instead of one or two. Her church and her school district are building like mad to keep up with the rush of newcomers, and she's caught up in that. Life is suddenly filled with activity and purpose.

Even the men who come to Arizona to retire get caught up in the whirl. Ray Rubicam, one of the founders of Young & Rubicam, came looking for a quiet place to sit in the sun and watch his investments. Now he's involved in so many things—from being a director of the Valley National to land deals—that he's working (at least part of the day) seven days a week.

- **Sidelines**—Growth opens the way for all kinds of things. Phoenix has striking architecture. The Sombbrero Playhouse, where Ann Lee stages professional theater, has just opened its Backstage Club. The decor is so modern that the committee postponed its opening three times while it debated. But the club has been doing a rush business ever since. It's one of the few places in the country where you can have your



Automatic Awning Raiser installation on a bakery awning. Just pushing the button on 2-way control inside the store raises or lowers the awning. There's no need to go outside to raise or lower awning. The unusually high torque of the motor gives ample power to raise almost any awning.

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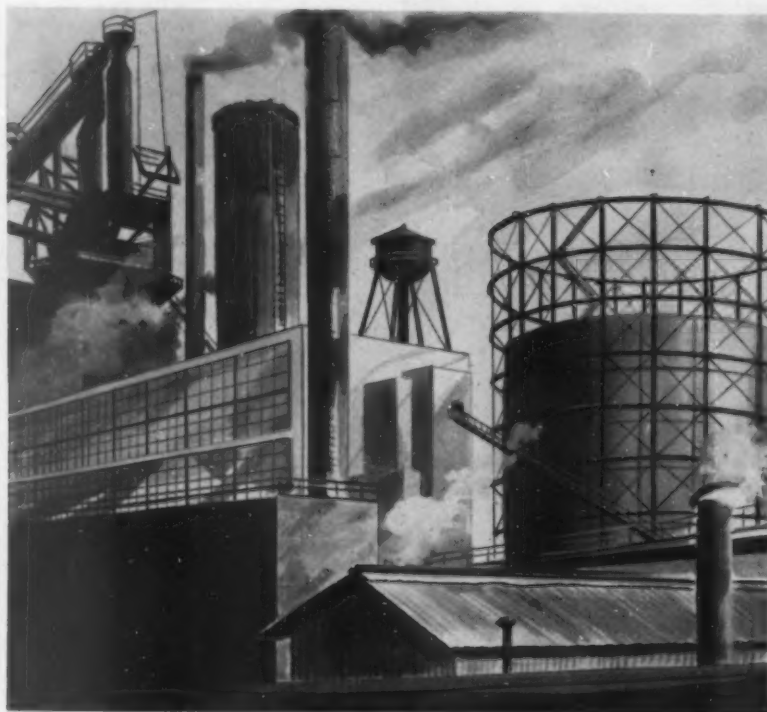
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City _____ Zone _____ State _____

dinner before the first act and go back between acts for dessert.

At the Green Gables you are met by a knight in armor riding a white horse. Your car is parked by Robin Hood. Gas stations give away steers as prizes. Scottsdale, which five years ago was no more than a dusty crossroads eight miles east of Phoenix, is now one of the West's boom towns. Its architecture is determinedly Western, with overhangs above the sidewalks and wagon wheel chandeliers. But it does have a hard core of real artists. Charles Loloma, for example, works with native clay and silver in the Hopi tradition. And it has shops that would sparkle on Fifth Avenue. The result pulls tourists from thousands of miles.

• **Anything Goes**—Growth gives the city an "anything goes" feeling. Paradise Valley, which five years ago had nothing more than a couple of resort hotels and a sprinkling of homes, is now filling up with homes. Many of them range well above \$100,000 in cost —and the last bits of land in the valley are being bid up to more than \$10,000 an acre.

Many a businessman goes in for land deals on the side. "See that piece of desert. We could have bought it for \$25 an acre when we came out. Now it'll go for \$250."

Houses—complete with built-in furniture and fireplaces, swimming pools, and Kachina dolls—spring up everywhere. "That farmer had a nice field of cotton yesterday. Now look at his housing development."


The same stir shows in the strictly cultural fields. Walter Bimson, president of the Valley National bank, found 15 art shows running one Sunday last winter.

III. Electronics in the Desert

Dovetailing into this growth—and perhaps the industry that will spark Arizona's future in a way that copper and cotton never have—is the electronic industry.

Dr. Daniel E. Noble brought Motorola's research center to Phoenix in 1949. Motorola built its own laboratory, is now opening a second plant and building a third, chiefly to make transistors. AiResearch and Goodyear Aircraft, both reopened wartime facilities, are expanding rapidly. Hughes and Douglas set up in Tucson. Hughes, with about 5,000 people making guided missiles, has probably the state's largest single plant. Sperry Rand is assembling sites where it expects to employ 3,000.

• **On the Crest**—The electronic tide seems to be flowing Arizona's way. The Army, in setting up its electronics proving ground at Fort Huachuca in southern Arizona, has added impetus. Adrian Babcock of Arizona Public Service, who



What you can learn from the deep sea diver about high blood pressure...

Though deep sea diving is hazardous, divers can work for years without serious mishaps. They do so by avoiding troublesome situations... and by taking other safety precautions. For instance, they never work too long at great depths under great pressure.

Anyone with high blood pressure (hypertension) of the moderate, uncomplicated type... should face his situation in much the same way as the deep sea diver does his work.

This is because successful control of this disorder may depend upon knowing what and what not to do. In fact, by avoiding situations and conditions that adversely affect blood pressure, it is often possible to bring an elevated blood pressure down... or keep it from rising to excessively high levels.

What is high blood pressure and what does it do?

When hypertension occurs, the very small terminal portions of the arteries contract. Pressure within these narrowed blood channels rises... and the heart works harder to force needed amounts of blood through them.

If the blood vessels are strong enough to withstand the extra pressure, harmful effects may not be noticed for many years. The continuous strain, however, may eventually overwork the heart and weaken the blood vessels.

If hypertension develops, then what?

If the disorder is mild and not caused by some underlying disease, the patient can do a great deal to help himself just by taking it easy... emotionally and physically.

Since tension, anxiety and worry are believed to be related to this disorder, it is important to live calmly and to be moderate in eating, working and everything else. One good rule is this: *do everything your doctor permits, but no more.* Following this rule alone often helps patients live long, comfortably and usefully with hypertension.

If more rest and recreation, and avoiding tension and strain, fail to control this disorder... then the doctor may try diet, drugs or surgery.

What about guarding against hypertension?

When hypertension is discovered early, it is usually easier to control.

So, everyone should have periodic health examinations... especially those who are middle-aged and older, are overweight or have a family history of the disorder.

One important safeguard is weight control. For high blood pressure occurs more than twice as often among overweight people as among thinner people.

Many helpful and reassuring facts about hypertension are given in Metropolitan's booklet, Your Heart. Use the coupon below for your free copy.

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BALTIMORE & OHIO RAILROAD

Constantly doing things—better!

**"... Arizona must have
products that don't use a
lot of process water . . ."**

ARIZONA starts on p. 114

has spent long slow years in bird-dogging companies, says they're beginning to come to him—and scouts from electronic and research companies are on the vanguard. Arizona seems well on its way to becoming a research center.

The transistor has all the earmarks of the product Arizona wants. The state is pushing for plants that will use its raw materials—chiefly cotton and copper—and serve Western markets. But to sell nationally, something made in Arizona must be light and of high value. (Reynolds, which has the world's largest aluminum extrusion plant in Phoenix, competes in Eastern markets only by overcoming the handicap of a 24-per-lb. freight charge.) And Arizona must have products that don't use a lot of process water and that don't produce a lot of smoke. The transistor fits these specifications ("You can pack a million dollars worth in one truck.")

The transistor seems to have a golden future. With its tiny size, lightness, reliability, and power economy, it's on the way to replacing vacuum tubes in many jobs. For the military, transistorizing equipment seems a necessity. The industry figures that job alone may take 10 years.

IV. The Brains Component

The transistor has another quality, and one that is all-important for Arizona—a large component of brains. This is what is bringing the state researchers, engineers, designers, marketing specialists, and a host of other white collar workers that it hasn't had. Motorola has several hundred engineers and technicians. AiResearch, Goodyear, Hughes have hundreds more.

• **Supporting Industries**—Dan Noble came to Phoenix largely because it had the "metropolitan back-up" that the kind of people he wanted would need. Motorola wanted to set up its laboratories outside the old industrial centers—well away from atomic targets. Noble remembered Arizona from his youth, when he spent a year in the state rebuilding his health and helping an old mountaineer hunt mountain lion.

He found Phoenix had enough of the supporting industries, such as tool and die shops and contractors. It has an exceptional labor market, with thousands of people working below their peak skills. It has recreational possibilities—riding, hiking, fishing, mountain climbing. But above all else, it had what, for want of a better word, Noble called



How we put more "GET" in this jet

● Pare pounds from a jet's weight and it can fly faster, higher, farther. Tube Turns' forging know-how turned this trick for the B-47 bomber. Originally, the piston tube of the B-47's aft main landing gear was machined from special stock. Then Tube Turns' engineers suggested using standard tubing with "tubular upsetting"—one of our advanced production methods. This switch cut 73 pounds from the weight of this part—and saved \$70 in alloy steel!

Tube Turns' forging approach has solved hundreds of other problems in dozens of industries. Our method offers you a *complete forging service*: design, engineering, quality controlled production—plus experience! For high performance at low cost, let us quote on your custom-forged parts.



FIRST STEP in Tube Turns' *complete forging service*—engineering. Here, forging experts—with years of practical experience—create die designs that produce the best possible forgings at minimum cost!



ONE OF WORLD'S LARGEST! This huge upsetting machine is a dramatic example of Tube Turns' extensive facilities. The giant sets new records for forging production and quality—makes possible spectacular savings!

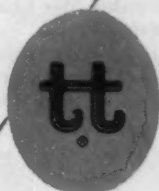


CLOSE SUPERVISION—to insure top quality—is lavished on every production step by Tube Turns. During heat treating, for instance, test bars of metal follow every 25 production pieces—are tested to guarantee highest standards.



WIDE RANGE of Tube Turns' complete forging operation is shown here. Large parts are alloy steel jet aircraft shafts; small one is an aluminum bracket. Big or small, they're the world's finest forgings!

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State employees!*

THE HON. CHRISTIAN A. HERTER,
Governor of the Commonwealth of Massachusetts,
says this of Blue Cross:



"In my Annual Message in January 1955, I proposed to the Legislature to enact a law that would help State employees meet hospital and medical expenses. The Legislature, after study of this problem, enacted into law Chapter 628. Under this law, the State Employees' Group Insurance Commission awarded the hospital and medical contract for 33,000 employees to Blue Cross-Blue Shield. Thus, Massachusetts became the first State in the Union to offer this protection to its employees."

Blue Cross Plans, serving locally coast to coast, bring Americans this famed program for prepayment of hospital care . . . the only one officially approved by the American Hospital Association.

THE SPECIAL advantages of Blue Cross protection are recognized today in all fields of employment. And the fact that more than 50,000,000 Americans have become Blue Cross members—mostly through employee groups—indicates how successfully this service meets their needs.

The Blue Cross aim is unique. Local Blue Cross Plans everywhere have the same objective: to provide for needed hospital care, rather than just dollars. A "partnership" with local hospitals makes possible this practical kind of service. To get care, a member simply presents his Blue Cross card when he enters a participating hospital. The Plan then pays the hospital directly. This is

one reason why Blue Cross Plans alone are officially approved by the American Hospital Association.

Saves work for management. By handling details of payment directly with hospitals, local Blue Cross Plans spare employers time and expense in filing claims and following up cases.

The cost is low. Each local Blue Cross Plan is organized not for profit. Every cent paid in, except for low administrative expenses, is set aside to pay hospital bills. To give fullest value, costs and benefits are locally set to meet local needs and conditions.

A flexible service. Blue Cross protection is easily adapted to special requirements of employee benefit programs in both large and small companies. Also, through simple arrangements, the employee may continue his Blue Cross membership after retirement.

For complete facts on Blue Cross, contact your local Blue Cross Plan. Or write Blue Cross Commission, Dept. 608, 425 North Michigan, Chicago 11, Ill.

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"... many Easterners have taken a substantial salary cut to live in Phoenix or Tucson ..."

ARIZONA starts on p. 114

cultural atmosphere. It had an atmosphere that people who work with ideas find congenial.

This is a real thing. Now, when engineers are scarcer than ever before, research administrators in Arizona have little trouble attracting engineers. "We can get seven men to come to Phoenix for everyone we lure to Chicago."

V. People, More People

Whatever the combination is—sunshine, resorts in the high hills, desert living—Arizona pulls in people. It may simply be, as those who come for their health testify, that "people feel better here." It may be the growing emphasis through the U. S. on leisure and living.

Some 50,000 a year come to Arizona to stay. Probably double that number would come if there were jobs. As it is, only about 20% of Arizona's people are engaged in nonagricultural work. Nationally, the average is 30%. Arizona economists figure this means that about one in three of the people who do come to Arizona don't need to work. They're there because they want to live there. Phoenix and Tucson have a heavy sprinkling of Easterners who took substantial cuts in salary to go there. And there's still a steady flow of people coming for their health.

• **No Labor Shortage**—What this steady in-migration means shows up most clearly in Arizona's labor force. A steady stream of workers come across the border. About 50,000 hit the Arizona State Employment Service last year. Only about 12,000 got steady work. Perhaps another couple of thousand set up for themselves—new businesses crop up steadily. So about one out of three of these incoming workers got jobs; but the rest didn't join the unemployed. They moved on.

Of those 12,000, a good many probably got jobs at less than their best skills. The state has a lot of ex-accountants who are pumping gas because they want to stay in the state for their health, or the health of someone in their family.

With it all, unemployment runs low—only about 15,000 out of a total labor force of some 310,000. So Arizona is in an enviable position: It has a labor surplus; any new enterprise that opens up finds plenty of good hands. But there's practically no unemployment.

• **On the Job**—Performance on the job stands out, too. Plants that have com-



*And to help State employees
meet doctor bills,
the choice was **BLUE SHIELD!***

Governor Herter of Massachusetts says, "In my Annual Message in January 1955, I proposed to the Legislature to enact a law that would help State employees meet hospital and medical expenses. The Legislature, after study of this problem, enacted into law Chapter 628. Under this law, the State Employees' Group Insurance Commission awarded the hospital and medical contract for 33,000 employees to Blue Cross—Blue Shield. Thus, Massachusetts became the first State in the Union to offer this protection to its employees."

Sponsored by doctors in their own local areas... Blue Shield Plans help people meet surgical-medical and maternity expenses.

Broad protection. Provides benefits for hundreds of operations and for many nonsurgical services.

Low in cost. Blue Shield Plans work on a nonprofit basis.

Easily adapted to welfare programs in large or small companies.

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AIR Parcel Post and AIR Mail

parable operations in other states find their absenteeism runs about half what they expect in Los Angeles or Chicago. And apparently workers learn faster—at least plants using the aircraft industry system of “learning curves” in bidding on subcontracting jobs say they do. Labor costs are figured at 100% on the first few units of a new contract. As workers learn, costs drop. Arizona plants say they’ll reach 80% faster than at other plants—and in the long run they’ll go lower.

In the world of ideas, where there are no measuring sticks, there is at least a feeling that people are more creative. Electronics engineers say the ideas come easier. At least one banker from New York finds himself writing poetry. Whether it’s because there are fewer distractions in the way of traffic and snow shoveling, or whether life is simply freer, Phoenixians say the inhibitions wear off.

There’s no easing up in the inward move of people. In fact, more and more are coming. The Census Bureau estimates that by 1965, Arizona’s slightly more than 1-million population will have swollen to 1.4-million. Arizona economists think that’s conservative. They’re prepared to see a 50% gain in the next 10 years.

VI. Life in the Desert

All of this stamps Phoenix as a modern day growth town—and means its people are setting future patterns for other cities. In many ways—such as its strikingly high percentage of homeowners—Phoenix sets an example that other cities may not reach for years to come.

It’s a building town. Phoenix has more than 60 architectural firms, is literally bursting out all over the desert. Its architecture is impressive (pictures). How much Frank Lloyd Wright, who lives and has a school just east of the city, has influenced this is debated all over town.

Phoenix has 17 major shopping centers now, has at least seven more coming along. Newer ones are leap-frogging older ones, as new residential areas open up. One of the newest, Park Central, has space for 4,900 cars. Into it, Goldwater’s, one of Phoenix’s biggest and oldest downtown stores, is moving its headquarters. Downtown merchants are holding their own, and expanding in some cases. But the battle between downtown and the shopping center is clearly coming to a head in Phoenix.

• **Individualists**—As customers, too, Phoenixians set their own patterns. For one thing, they’re homeowners. Building is relatively cheap in Phoenix, where construction is light and carpenters can work 365 days a year. Costs may run 15% to 30% less than in

colder climates. But that doesn’t wholly explain why 85% of Phoenix families own their own homes—as against slightly better than half of all families nationally.

Phoenixians live and entertain at home, too. The city is studded with restaurants and surrounded by top resorts, like Camelback Inn in Paradise Valley and the Wigwam at Litchfield. But even there you rarely see formal evening dress. Phoenixians concentrate on sports coats, the “squaw” dress, and things like frozen food (which allow housewives time for the swimming pool rather than the kitchen). More than 90% of Phoenix families have one car, 27% have two. It’s an air-conditioned town, with the locally developed evaporative cooler still dominant, though refrigeration is gaining. (Evaporative coolers, which simply draw air through water-saturated filters, leave you gasping when the humidity rises in August.)

It’s overwhelmingly a middle-class city now. Half of its families fall into the \$4,000-to-\$7,000 bracket. A little less than 8% have incomes over \$10,000.

These people are heavy users of credit. Apparently both newcomers—who buy everything from house to refrigerator on credit—and old Phoenixians use it. The city has 89 small loan companies—and the Valley National Bank alone has more than 100,000 consumer loans. As Chmn. Walter Bimson says, “We pioneered in installment loans and small business loans. We had to. In those days, there wasn’t anything else in the Valley for a bank.” Over 20 years, the bank’s losses have run to less than one-third of one percent.

The other side of this picture is that bank deposits in the area are low—only about \$700 per capita as against \$1,400 in California. “People who have money, here, have it working—and not in the bank.”

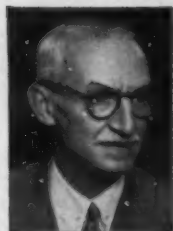
• **Boosters All**—These are the people who set the tone of the city. With all its tourists—tourism is the fourth largest industry in the state—Phoenix still has no slot machines, no burlesque, and very little night club life. And Phoenixians boost their town in a way that first amuses an Easterner, then assumes the mark of dedication. This feeling is so strong that a businessman gets involved in community work—or else. He’ll be working with the Red Cross, or some other community group, or he’ll find he’s kidded at his club. He may even begin to lose business. Arizonaans make friendship part of their business life, and they steer business to a civic worker rather than to someone who is not taking part.

This feeling of working together for Phoenix runs through the town—and it can be highly effective. Last spring, it seemed that the deal to bring Sperry

A Report from the STEEL CENTER of Mid-America



**GRANITE CITY STEEL CO.—WITH TWO ROUNDS OF EXPANSION
COMPLETE—NOW PLANS A THIRD WHICH WILL INCREASE
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*John Marshall,
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"Less than two years ago Granite City Steel completed an \$89 million expansion program.

"Our ingot output has doubled since 1947.

"Now we are starting another major expansion to raise ingot production 30% by early 1958.

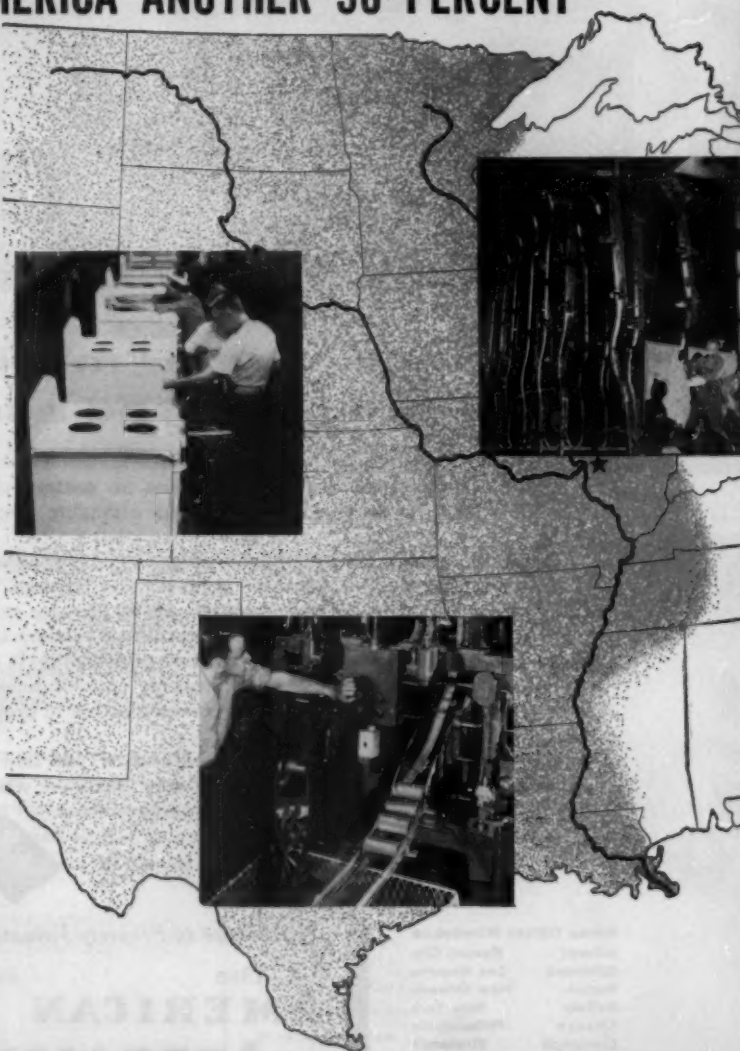
"The first benefits of this new expansion program will come late this year with increased output of hot rolled coils and sheets. Greater production of cold rolled steel will follow later.

"We are, in effect, rounding out our production facilities, to bring open hearth capacity in line with our rolling mill capacity.

"As the major basic producer of sheet steel located on the Mississippi, we believe it is our responsibility to keep pace with the healthy industrial growth of Mid-America—and to build ahead for the future.

"For our economy grows on steel. Its production is one of the measures economists use to determine how we, as a nation, are doing, and where we are likely to go.

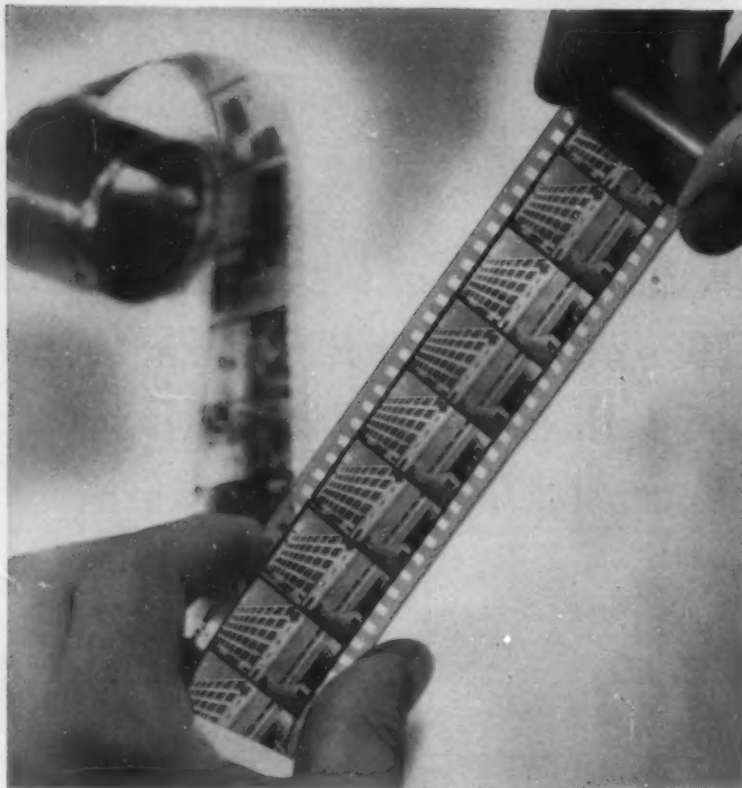
"In location, in transportation, in service, we are Mid-America's steel center — and the future of Mid-America looks good to us."



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Since 1896... Largest... Most Widely Used

"... Arizona doesn't have rank after rank of slum apartments and lofts ..."

ARIZONA starts on p. 114

Rand to town might fall through over the question of extending runways at the municipal airport so that the B-47s Sperry uses for testing could use the field. To bridge the gap, a group of Phoenix businessmen, big and small, got together and raised \$650,000 to buy the land Sperry wanted to lease. They did it in just 72 hours.

VII. More Growth

A growth area's problems are growth. Arizona by and large has none of its past to bury. It doesn't have rank after rank of slum apartments and lofts. It doesn't even have much of a legacy of race feeling. Phoenix, for example, began integrating its schools before the Supreme Court decision.

The West's historic problem—water—probably won't limit Arizona's growth. It may limit Arizona's farmers, but not light industry. For Arizona farming, while it's fabulously productive—farmers around Phoenix get triple the U.S. average production of cotton per acre—uses a lot of water. Farming takes four to five acre-feet of water per year.

But the newcomers and new industries coming into the metropolitan areas use only about one-third as much water as farming. As they come in, they push the farmers out into new areas. So Phoenix and Tucson might be able to triple their populations—and actually ease the pressure on water supplies while doing so.

• **The Real Thing**—As Arizona businessmen see it, the problem is to keep up with growth. They're matching new jobs with new homes, new schools, new roads. Dr. Richard Harvill at the University of Arizona, for example, expects the school's enrollment to triple by 1970—and Phoenix businessmen expect Arizona State College just outside Phoenix will get the undergraduate and graduate engineering schools they're demanding.

They think the growth will go on. "This isn't like the Florida land boom. There are real things—real homes and real jobs—behind this growth." The defense plants, and defense contracts, look more and more permanent as the U.S. builds its defenses. Businessmen don't discount the problems: "We'll have to raise more than \$2-billion in the next 10 years just to create jobs and homes for people coming in." But they see no sign that Arizona is going to stop growing. **END**

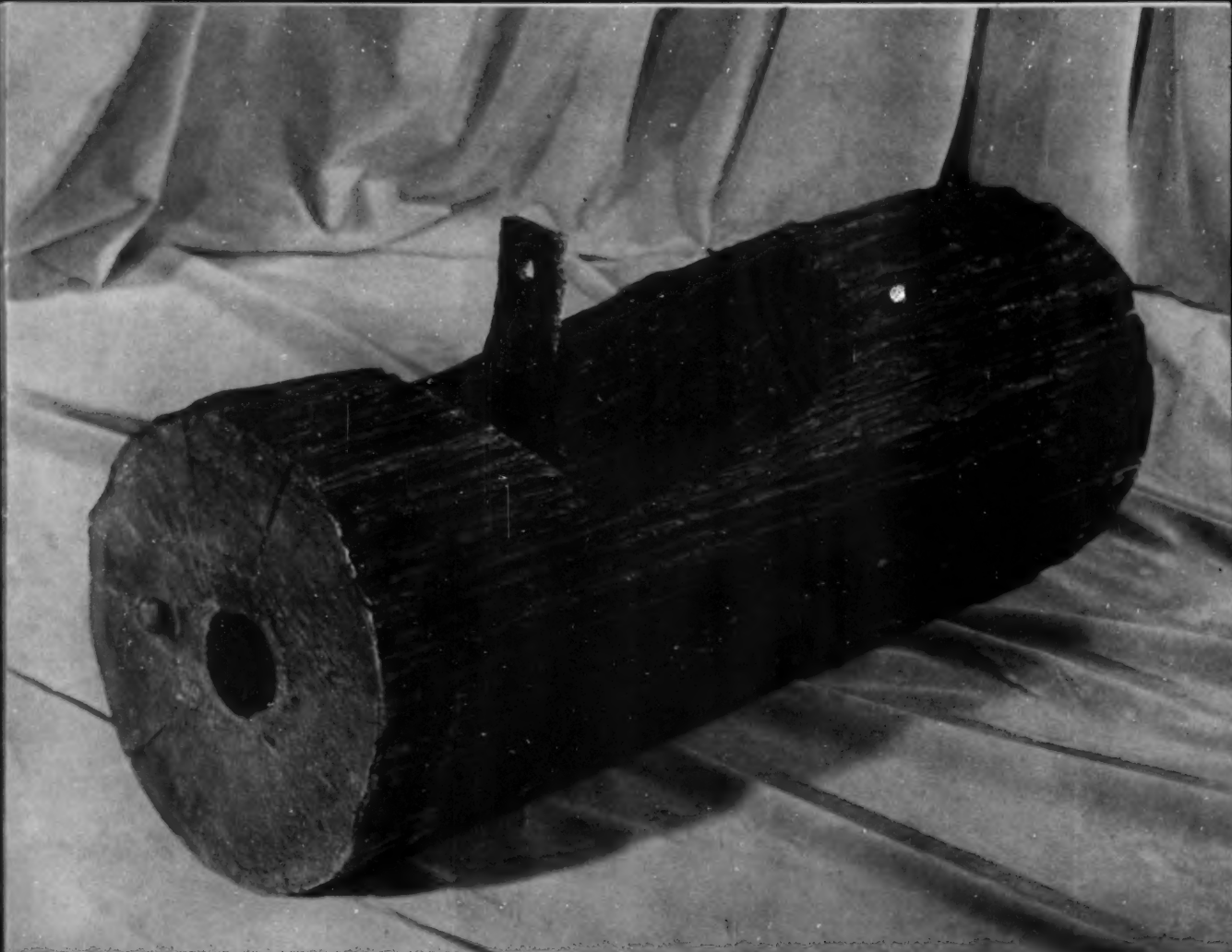


Exhibit courtesy The Chase Manhattan Bank

Open-and-Shut Case

Manhattan's first water system, with its wooden mains and crude gate valves, was a triumph of its times.

But it just couldn't serve everyone at once; in fact, each subscriber was assigned a specific, limited period of use. Subtract the leakage along the way, and . . . well, there were better systems to come.

Business Week came along, for example, with an almost leak-proof system for piping advertising to business management. Because it was never meant to serve everyone, it reaches management men with the full pressure of an all-business editorial content . . . delivered with a frequency, a clarity, and a freshness that keep the valves open all along the line.

Business Week delivers over twice as much business information as any other general, general-business, or news magazine . . . and over twice the business advertising, too. It's an open-and-shut case . . .

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Automatic Sprinkler Corp. of America
Blaw-Knox Co.
Bundy Tubing Co.
Calumet & Hecla, Inc.
(Wolverine Tube Div.)
Crane Co.
Jenkins Brothers
Johns-Manville Corp.
Jones & Laughlin Steel Corp.
Keasbey & Mattison Co.
Lunkenheimer Co.
National Cylinder Gas Co.
(Tube-Turns, Inc.)
William Power Co., The
Rockwell Manufacturing Co.
Transamerica Corp.
(General Metals Corp.)

Source: Publishers Information Bureau

More power, more models,



New Chevrolet Task·Force

Anything less is an old-fashioned truck!



to do more jobs !



New 10000 Series model with Triple-Torque tandem (left) rated up to 32,000 lbs. G.V.W., 50,000 lbs. G.C.W. New model 3104 half-ton Pickup (above).

Trucks

Just name the job—and there's a new Chevrolet truck built to do it better! Whether you haul groceries or gravel, deliver milk or concrete by the mixerful, you'll find a model that's practically made to order to save you money.

There are *more* new Chevrolet trucks to do *more* jobs than ever before! They go right on up to giant 10000 Series trucks with Triple-Torque tandem—rated up to 32,000 lbs. G.V.W., up to 50,000 lbs. G.C.W.

And every single model in the line brings you new

higher horsepower to increase your efficiency and cut your time per trip. Modern, short-stroke V8's are standard in L.C.F. and heavy-duty models, an extra-cost option in all others. Trucks in the two top series are powered by the new 322-cubic-inch Loadmaster V8 that develops a hefty 195 h.p.—or 210 h.p. with extra-cost optional equipment. Four sweet-running sixes all bring you more power, too.

Stop by your dealer's and see the most powerful and versatile Chevrolet trucks ever built. There's one just right for your job. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



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The simple operation of filing or finding a letter in Super-Filer, checked by stop watch, takes only half as long as with a conventional rigid-front file. That's because Super-Filer automatically and mechanically does four of the eight steps a file clerk has to take with a rigid-front file. By thus simplifying work,

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There's one sure way to prove the savings Super-Filer makes possible for you. See it demonstrated and then try it out in your own office. You'll find Super-Filer on the floor of your local GF showroom. The address is shown in your phone book. Just call the GF dealer or branch—or write The General Fireproofing Company, Department B-67, Youngstown 1, Ohio. © GF 1956

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When a Boom Peaks Out . . .

● Do you keep the economy growing by fighting inflation? A new book by a Maryland professor says this policy leads instead to stagnation.

● Or do you try to get people to save less, spend more? Daniel Hamberg says this is how to keep the economy from stalling when investment exceeds the growth rate.

● Growth, says Hamberg, is essentially unstable, but wise economic policy can ease its pains.

The economic optimist today bases his faith on two major ideas:

The old business cycle is a thing of the past. It has given way to a new pattern in which adjustments occur separately in different sectors of the economy.

This year, autos and housing are down, yet the general economy stays up, rolls through an adjustment. Next year, some other sector may have to take its lumps. Yet the over-all economy will still be stable. This stability results from the thick cushion of government spending, from flexible government budget and monetary policies, from built-in economic stabilizers, from a great upsurge in capital spending that is impervious to short-term swings in business.

The new economy is set for growth. Population is rising. Technology keeps improving. New scientific discoveries change old industries, create new ones. The capital spending wave—with its heavy emphasis on expenditures for research and development—ensures that growth will continue. And this powerful growth factor ensures that divergences from the long uptrend will be very moderate.

• **Fear of Heights**—Yet, whenever the U.S. economy pauses—as it's doing now—even optimists feel the gnawing of old worries. For most American businessmen, these worries stem from one great traumatic experience—the wild bull market and crash of 1929. Sidney Rolfe, economist of the C.I.T. Corp., labels this recurrent anxiety complex "acrophobia"—a morbid fear of heights.

Once again you can hear business pessimists—supported by many economic historians and business-cycle theorists—keenly their old mournful chants, such as "The Tree Doesn't Grow to the Sky," "What Goes Up Must Come Down," and "Remember the Last New Era." These sour strains clash with the

pure music of last year's economic growth theme.

• **New Prophet**—At this juncture, a new book by Prof. Daniel Hamberg, of the University of Maryland—*Economic Growth and Instability* (Norton, \$5)—has just made a timely appearance. Hamberg's book makes an effort to harmonize the apparently discordant themes of the growth bulls and the business-cycle bears. For growth and the business cycle, he holds, are organically related—in a free society, growth is itself the cause of instability.

Yet, though some degree of instability is the inevitable price of growth, that price need not bankrupt the economy. Wise economic policy, Hamberg suggests, can minimize it.

Hamberg's book, though a work in pure theory, contains much that directly bears on the U.S. economy in 1956. It may go far to account for the striking difference between our sluggish, unstable prewar economy and our exuberant, stable postwar economy.

• **Rationalizing**—To the consternation of most depression-reared economists, our postwar "new model" economy has been distinguished by rapid growth, high employment, relatively slight inflationary tendencies, and remarkably mild recessions that have shown little tendency to snowball.

This performance of the postwar economy, Hamberg's study makes clear, was no fluke. Using profound and complicated tools of economic analysis developed in recent years—particularly by a British economist, Roy Harrod, and an American, Evsey Domar—Hamberg offers a rational explanation for our postwar buoyancy and stability.

But, using the same analytical tools, Hamberg can explain the stagnationist phase of the 1930s—whose ghost, he suggests, does well still to haunt us. For Hamberg doesn't see our present economy as necessarily depression-proof.

It's certainly not immune to blunders of government policy or to over-ambitious investment programs of business.

• **Kinds of Investment**—The core of Hamberg's analysis of growth and instability lies in his treatment of investment, which he splits into two types—"autonomous" and "induced."

Autonomous investment he defines as investment that is independent of growth in sales or output. It comes chiefly from:

• The discovery of new techniques of production—like the assembly line—which cut production costs.

• The development of new products—such as autos or TV sets—which may create new markets or simply bid away the market for already existing products and, in the process, create growth.

• The development of new resources—such as petroleum or uranium—which are usually stimulated by some technological advance.

• Population growth and migration—which can justify increasing investment in housing and public utility construction.

• War and growing national security requirements—which may necessitate expansion of plant and equipment to produce military goods.

• **Waves of Innovations**—Except in periods of war, however, the main element in autonomous investment, Hamberg thinks, is the growth in human knowledge and technology. And innovational investment is the great progenitor of economic progress.

Nevertheless, the growth that innovational investment creates is likely to be unstable—because the big, fundamental innovations have always come in great waves that, in time, exhausted themselves, thereby leading to periods of stagnation until a new innovational wave again drove the economy forward.

Since the latter part of the 18th Century, we've had three such waves, each of them lasting about 50 years. As Simon Kuznets of Johns Hopkins dates them, the first wave—the cotton textiles, iron, steam power cycle—lasted from 1787 to 1842. The second—based on the building of the railroads—went from 1842 to 1897. The third—created by electricity and the automobile—started in 1898, probably ended a couple of years ago.

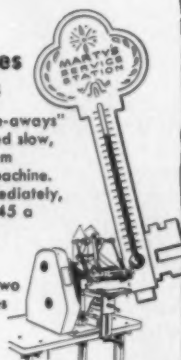
Now we seem to have entered a new, long innovational cycle. This may be, broader than any of its predecessors, for it's based not on one or two major



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"... Hamberg finds recent Federal Reserve Board top-of-the-boom strategy to have been exactly wrong . . ."

ECONOMICS starts on p. 133

innovations but upon a flood of them. They owe their origin to fresh discoveries in nuclear physics, organic and inorganic chemistry, electronics, engineering, and the other physical sciences, and to new product developments in virtually every industrial sector.

This new wave, which probably dates from 1953, would seem to have at least a decade still to go until it passes through its prosperity phase—if the pattern of past long cycles means anything. During prosperity phases of a long innovation cycle, recessions may occur but they're likely to be moderate.

• **Another Investment Urge**—Only a part of investment is innovational, however. The greater part of investment in any given year is what Hamberg calls "induced" investment—that is, investment that represents a response to increases in the demand for existing products. Those increases in demand may be actual or merely anticipated. To capture what they conceive to be a growing market for their products and to keep their unit costs of production from rising too steeply, industries are induced to boost their investments in plant and equipment.

In the past, Hamberg finds, induced investment has been highly volatile. When it has risen, it has carried the economy up with it; when it dropped, it was a basic cause of recession and stagnation.

Hamberg's study concentrates upon the problem of explaining these swings in induced investment—which are basic factors in causing or curbing economic growth.

• **The Whys of It**—His explanation is this:

An economy has a maximum or "natural" growth rate that is determined by increases in the labor force and by technological progress. The economy can increase its real output—assuming that it's already functioning at a full employment level—only by adding more hands or improving techniques.

But there is nothing in the natural growth rate that guarantees that people will actually save and invest the sums of money required to produce economic growth at this maximum rate. They may save and invest too little or too much. Paradoxically, if they try to save and invest too much—to achieve, in other words, a growth rate beyond the natural ability of the economy—that will cause economic stagnation.

This is because excess saving, seen the other way round, will mean too little consumption. And excess investment will create over-capacity. As idle

capacity spreads through the economy, unemployment will grow. And as returns from past investments shrink, new investment will fall off. In such a situation, the economy will stagnate.

But when planned saving and investment are lower than the economy's maximum growth rate, the economy tends to be exuberant. Existing plant and equipment are used intensively, and profits are high. The underlying trend of the economy is inflationary, for people are spending too much, saving too little, and there isn't capacity to produce all they want.

In this situation, saving again becomes a virtue—a necessity for freeing more of the nation's resources for the production of capital goods and thereby bringing the economy closer to its maximum growth rate. As the level of saving and investment rises toward the level required to achieve maximum growth, inflationary pressures weaken and disappear—because demand is restrained, capacity enlarged.

• **Two Ways to Go**—While the economy is in its exuberant phase—particularly if this phase is also accompanied by heavy innovational investment—recessions, commonly caused by excess inventories—are likely to be short and mild, and they may be restricted to a few sectors of the economy.

But if saving and investment grow too much, they may go beyond the maximum growth rate that is made possible by additions to the labor force or technological progress. When that happens, the economy once again faces the danger of a reversal of trend, a swing toward stagnation and deflation.

• **Government's Role**—Whenever that threatens to happen, says Hamberg, the aim of government policy should be to make people save less, spend more. Otherwise, a failure of demand for final products will cause inventories to pile up, excess capacity to appear.

Thus, Hamberg finds recent Federal Reserve Board top-of-the-boom strategy to have been exactly wrong. By restricting the money supply and tightening credit, the Fed is hampering demand at a time when signs of over-capacity are showing up and when inflationary pressures have abated. The Fed's recent policies, he thinks, have increased the risk that growth would turn to stagnation.

But it's Hamberg's hope that the halt or reversal of the economy's growth trend will be moderate and short-lived—because of the strong, long-term wave of expansion resulting from innovational investment. **END**



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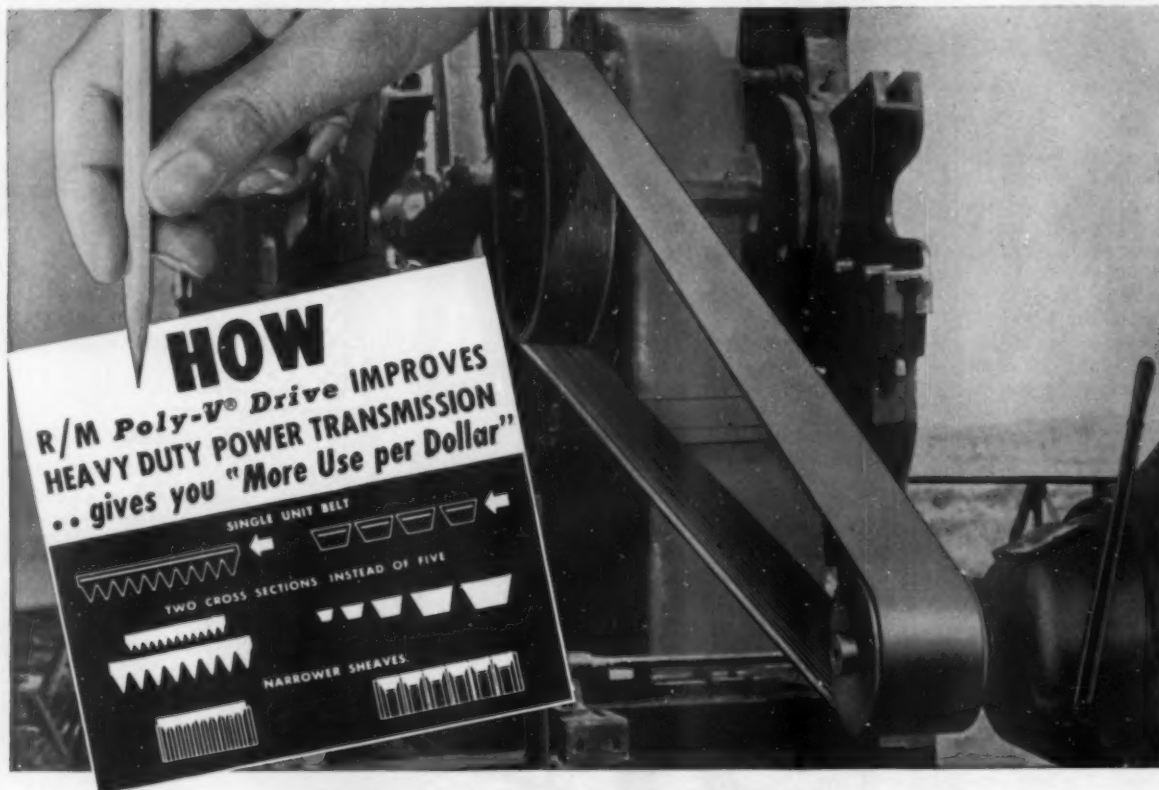
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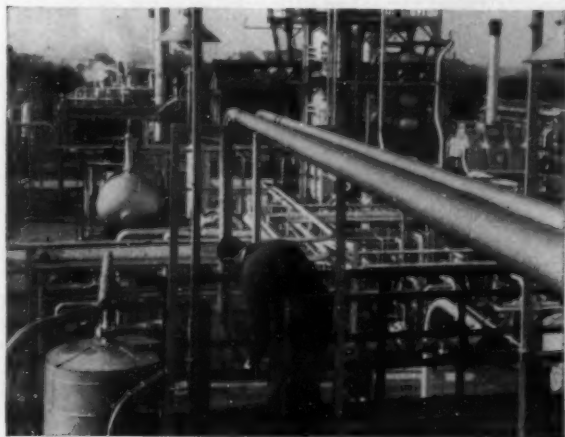
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Algeria today is a millstone around France's neck. The war there is diverting financial resources and manpower to a territory that can never again be an economic asset to France.



In France, economists and businessmen are looking beyond Algeria. They are planning to build a modern economy based on:

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France: Down but Not Out

With France bogged down in the costly and apparently fruitless Algerian struggle, Paris is the last place today you would expect to find much optimism about the future. From French politicians and political observers you get little but gloomy forebodings—about the end of France as a world power and the disasters that will befall France itself if Algeria is lost.

But out of Paris this week came a

rosy forecast of the French economy 10 years hence. In a report entitled *Perspectives of the French Economy in 1965*, the government's chief planning agency (Commissariat General au Plan) made these projections:

- Gross national product—63% above 1954 (the base year).
- Industrial production—up 77%.
- Agricultural output—up 25%.
- Personal consumption—up 60%.

• Gross investment—20% of GNP in 1965, compared with 18% in 1954.

• **Food for Argument**—Economists, both French and foreign, can be expected to quarrel with some of these projections, perhaps even with one of the basic assumptions—that productivity will rise in France by 4% a year. (The report includes a second set of projections based on an average of 3% productivity increase, but states that

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Talk, though, with some of France's leading economists and some of its top businessmen, and you will find that most of them share the same optimistic outlook for the long run. In fact, among the economists, you will find some who say that the sooner France gets out of North Africa and concentrates its resources on the French economy, the better it will be for France.

They argue that France has now been at war almost continuously for 17 years. First there was World War II, then Indo-China, and now North Africa, with the 10 years of colonial struggle costing up to 10% of national income in some years—in economic terms, a completely fruitless effort.

There are only two things these people really fear:

- Violent political repercussions inside France, perhaps upsetting the Fourth Republic if Algeria is lost by military defeat.

- Another bout of inflation—something that's already threatening the steady progress made by the French economy since 1951-52.

- Postwar Gains—In justifying their long-range optimism, the economists and businessmen point to the considerable gains made by the French economy during the past four or five years—to the over-all growth in production and the rapid increase of productivity. They stress even more the specific signs of health in the French economy:

- New industries such as petroleum, chemicals, and electronics are expanding as rapidly as anywhere in Europe. Unlike the older industries that are dominated by small units, the newer ones are in the hands of big companies with access to plenty of capital.

- Technology in the newer industries is right up with the best in the world. This is one of the reasons why some French industries do so well in export markets. For example, the Dutch, who have one of Europe's most completely electrified rail systems, regard French electric locomotives as the best on the Continent.

- The heavy investment made in basic industries under the Monnet Plan in the early postwar years has given France a modern transport system, electric power system, and steel industry.

- France's oversized retail distribution system is less of a burden on the economy now than in the early postwar years. (About 100,000 new retail shops grew up during the black market days.) Though consumption has expanded considerably since 1952, there has been no increase in the number of shops. In fact, some 5,000 individual units have been merged into chains.

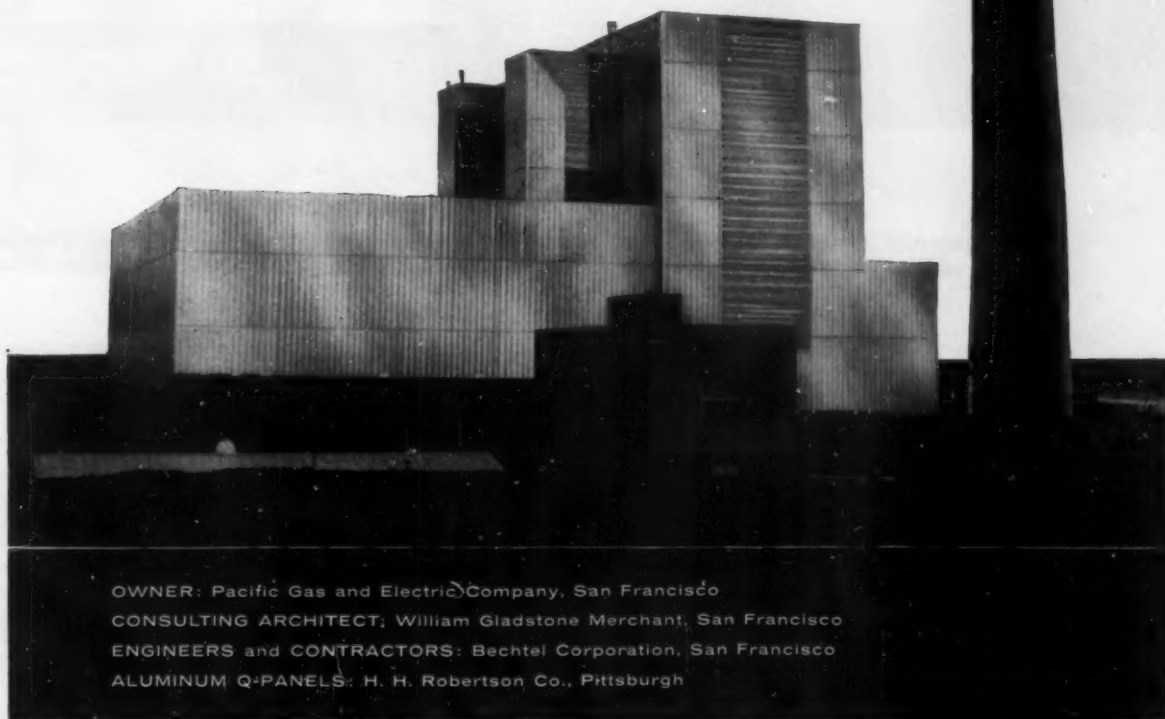
- Productivity in agriculture has been climbing fairly rapidly over the

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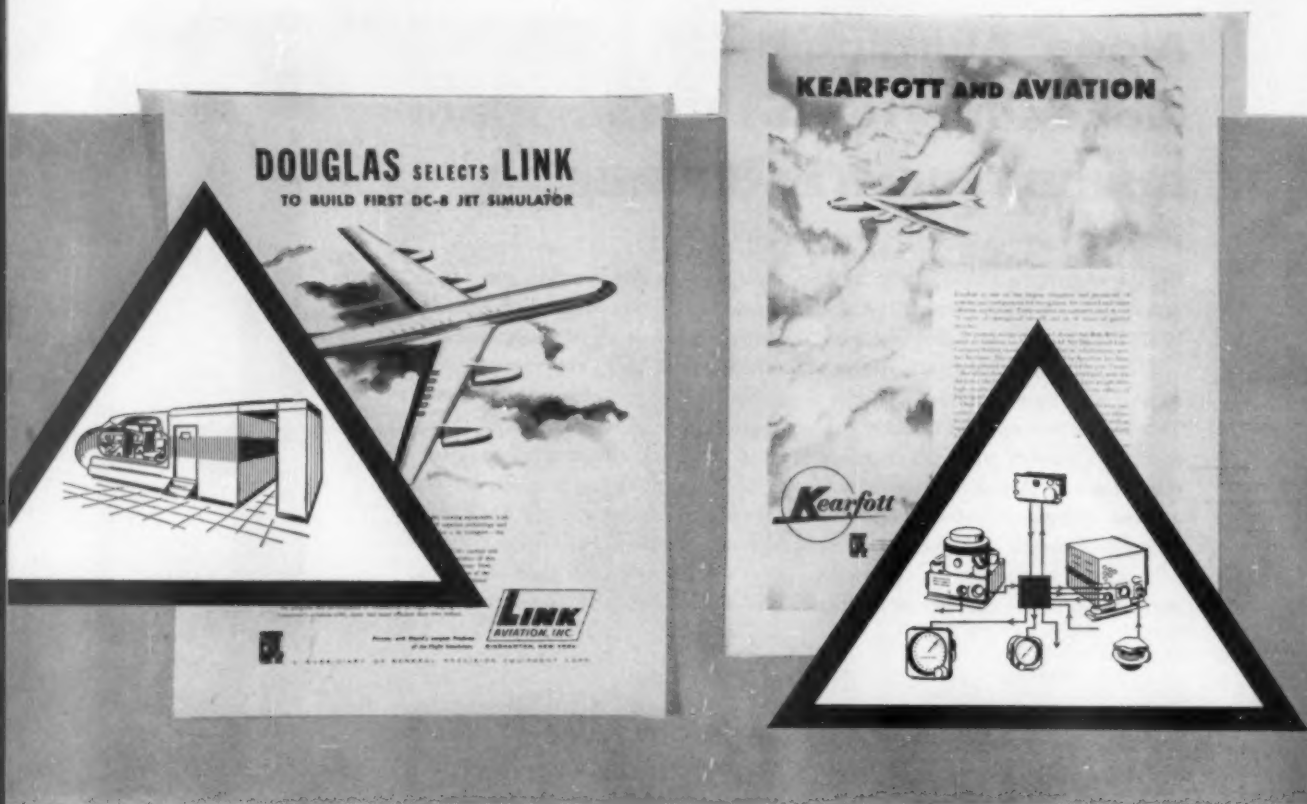
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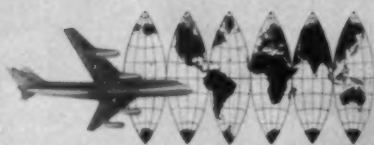
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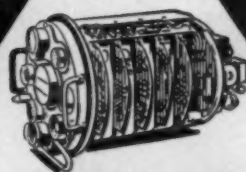
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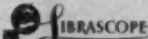


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"... they are more afraid of stagnation than they are of 'dirigisme' ..."

STORY starts on p. 137

past few years. The Ministry of Agriculture is set to launch a new agricultural service program based largely on Dutch experience.

• **Some Skepticism**—There are some French economists who believe that even with further progress along all these lines, France won't be able to catch up economically with countries like Britain and Germany. They point to the fact that French production and distribution still is based far too much on small units. For example, in France about 40% of the economically active persons still are self-employed, compared with 30% in Belgium, 22% in Sweden, 20% in the U.S., 10% in Britain.

It's this fact, plus the fact that in terms of government welfare benefits France is the most socialized country in the west, that has led one French economist to describe his country as a "largely socialist society reposing on an economy which is largely pre-capitalist."

• **Shopkeeper Revolt**—It's the survival of so many small units in the French economy that explains the strength behind the Poujadist movement. The shopkeepers and small businessmen who back this movement want to freeze French society and the French economy right where it is. So far as the movement has an economic objective, it's to build a corporate state (which might somewhat resemble that of Mussolini's) and thus maintain the small businessman's influence indefinitely.

In the face of this situation, a number of French economists believe that the only way to speed the transformation of the French economy is for the government to channel investment into the new growth industries and gradually to force the small units out of business. They are far more afraid of stagnation than of "dirigisme"—the French brand of government control.

As they see the future, the loss of Algeria—and the breaking of France's close economic ties with the whole of North Africa—is bound to bring economic advantages to France.

That's not just because the French government would no longer have to carry the present heavy administrative and military costs. It's also because (1) the investment that goes into North Africa would then be available for France, and (2) trade with North Africa (and with the whole French Union for that matter) is highly artificial—

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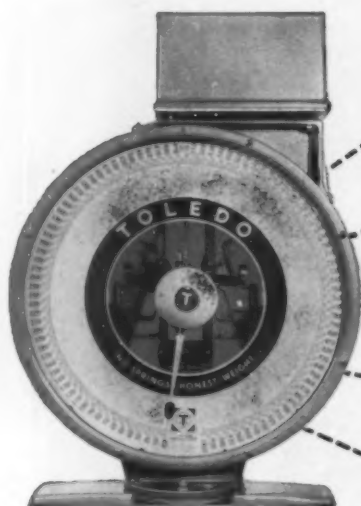
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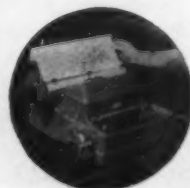
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This Toledo cabinet interlocks 22 scales in an automatic batching system.



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WEIGHTS . . . Toledo Scale Company, Toledo 1, Ohio

TOLEDO® HEADQUARTERS FOR
SCALES

with France paying about 25% above world prices for the products it buys, and selling its goods at about 30% above world prices. They think that only the older industries such as textiles (which account for about 25% of France's exports to the French Union) would be hurt if this protectionist system collapses.

• **Government Opposition**—Not all French economists go the whole way with this analysis of what needs to be done to really modernize the French economy. For one thing, there is opposition to the idea that the government must move in to see that investment is put into the right spots. Some French economists believe that this can be achieved without dirigisme if France opens up its economy to competition by: (1) fixing the exchange rate for the franc at a realistic level, and (2) gradually tearing down the present system of protection, which is based on the highest import restrictions of any country in Europe, plus a system of export subsidies.

• **Inflation**—As for the short-term outlook, what worries French economists, businessmen, and bankers is inflation, and the possibility that it will check the steady growth of the past few years. This week the government was talking about imposing price controls.

It's the Algerian struggle that is bringing the inflationary threat. On the one hand, there is the budgetary problem of financing the tremendous cost of military operations there. On the other hand, there is the growing pressure of wage inflation as a labor pinch develops in some of the key industries. This is largely due to the withdrawal of labor—both French reservists who are being called up for Algerian service and native Algerians who are leaving industries, such as steel, to join the fight against the French.

The Bank of France is keeping a sharp eye on these trends, is considering the possibility of new regulations that would restrict consumer credit for autos. (The bulk of consumer credit in France is used for car purchases.)

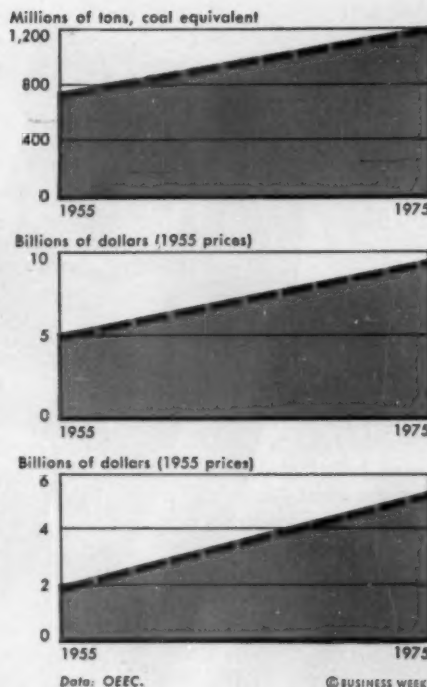
• **Faith in the Franc**—The big danger, if inflation gets out of hand, would be a loss of the Frenchman's confidence in the franc. During the past few years of price stability, personal savings have been rising at a healthy rate—something that France badly needs if the economy is to keep on growing.

The fear of inflation already has had its effect on the value of the franc in foreign currency markets. During the spring the free market rate dropped to 400 to the dollar (the official rate is 350). And apparently the only thing that is keeping the franc below 380 today is the heavy spending by foreign tourists, especially dollar spending by Americans. **END**

Western Europe's demand for energy will rise steadily during the next 20 years, so...

...capital investment to develop more fully the area's energy resources will be big, but...

...fuel imports to fill the gap between demand and domestic energy output will also cost a lot.



Power for Western Europe

In any language, \$215-billion is a pretty penny.

But if Western Europe is to fill its growing energy needs (top chart), that's about the amount it will have to spend over the next 20 years for domestic energy development and imports of oil and coal.

This is the financial highlight of an energy report just issued by a special commission of the Organization for European Economic Cooperation. The commission interviewed fuel and power ministries in OEEC's 17 member countries, got reports from major oil companies and the Coal & Steel Community, and consulted a cross section of experts.

Of the \$215-billion expenditure, an estimated \$145-billion will go for energy development within Western Europe.

OEEC puts Western Europe's investment in expanding its own energy resources last year at around \$5-billion. By 1975, OEEC says, this annual outlay will reach \$9.4-billion.

• **The Beginning**—But over the next two decades Western Europe will still have to spend about \$70-billion for coal and oil imports, OEEC estimates. Rising energy requirements—to sustain economic growth—are sure to outpace Europe's best efforts to supply its own energy. Last year, Western Europe paid out \$1.9-billion for these imports. OEEC predicts that by 1975 this

figure will reach \$5.2-billion annually.

• **Import Snag**—The real problem ahead is the sharp rise in imports (BW-Mar.17'56,p140). You can see the first signs of this in the announcement that the U. S. coal industry is setting up a \$50-million corporation to buy ships to carry coal overseas—primarily to Western Europe. That's good news for the coal industry here, but bad news for Europe's dollar balances.

Taking the brightest view, OEEC says the increased productivity made possible by fuel imports ultimately will bring in export dollars. But it emphasizes that Western Europe should do all it can to get the most out of its own energy resources. Admittedly, coal production can expand only "at a slowly decreasing rate," OEEC says. Yet coal "must remain the mainstay" for some time, despite Europe's own oil development and the not too distant prospect of nuclear power. European countries—OEEC adds—can make big strides toward more efficient use of the energy they already produce and better coordination of energy development both within and between countries.

• **Scheduled**—Last year's \$5-billion for capital equipment and development was about 18% of Western Europe's total investment (excluding housing), according to OEEC. Looking ahead, OEEC estimates the \$9-billion or more spent along these lines in 1975 will amount to about 21% of total invest-

ment. The 20-yr. outlay of \$144.9-billion for energy development will probably split up this way:

| Primary | Billions of Dollars |
|---|---------------------|
| Coal (incl. miners' housing) | \$10.5 |
| Lignite | 1.6 |
| Waterpower | 20.0 |
| Crude oil & natural gas | 10.0 |
| Secondary | |
| Coke & gas | \$10.8 |
| Patent fuel & lignite briquettes | .5 |
| Thermal electricity | 38.0 |
| Nuclear power | 11.5 |
| Petroleum products | 7.0 |
| Transmission & distribution of electric power | 35.0 |

• **Source**—Where will the money for all this come from? This week, at the World Power Conference in Vienna, J. A. van den Heuvel, OEEC's energy chief, gave one forecast of how the billions will be budgeted. His guess is that during the next 10 years, 24% of the needed funds will come from Western European governments, 38% from the capital market, and the remaining 38% from reinvestment by the oil, coal, and electric industries. For instance, U.S. and European oil companies plan to pay for boosted oil output mostly from earnings. As another example, Britain's National Coal Board has a \$2.4-billion program in the works. **END**



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Ball Bearings  Cylindrical Roller Bearings 
Spherical Roller Bearings  Tapered Roller Bearings 

In Business Abroad

• • •

Argentina Is Ready to Take Kaiser Subsidiary Off Blacklist

The Argentine government may give Industrias Kaiser Argentinas a clean bill of health in a few days. The revolutionary government that toppled Peron blacklisted the company and seized its assets (BW—Dec.31'55,p60), charging that it had been at least indirectly involved in the Peron machinations. The company was set up with 31% owned by Willys Motors, a Kaiser Industries Corp. subsidiary. Remaining interests are held by the Argentine government and Argentine nationals.

The government referee appointed to take over the company this week has completed a contract revision between Kaiser and the government. The Kaiser investment in the Argentine subsidiary is to be increased from 120-million pesos to 160-million, of which an additional \$1,047,000 will be in conveyor machinery and other equipment. The exchange agreement also has been revised. Kaiser agrees to produce 7,800 vehicles before the end of the year.

A government official estimates that Kaiser will lose about 110-million pesos (about \$3-million) that was coming to it under the old contract.

The whole matter is being presented to Pres. Aramburu for his O.K. But it is still not clear whether a decision will be made on the Kaiser case separately, or whether final action must await a general freeing of other companies taken over at the same time.

• • •

British Civilians Take Over From Military at Suez Base

A new experiment in empire strategy began last week when the last British soldier sailed out of Port Said, ending the 74-year occupation of the Suez Canal Military Base. Under the terms of the evacuation agreement between London and Cairo, Britain has the right over the next five years to move into the base again during an emergency. To keep the base active—and to continue its services to other British units throughout the Near East—11 British civilian companies have taken over its operation.

These companies include a consortium of three auto companies, Rootes, Austin, and Associated Commercial Vehicles; Imperial Chemical Industries; and Vickers-Armstrong. The companies, known as "Suez Contractors," will maintain stores and workshops and service everything from Centurion tanks to railway generators, and air-conditioning units. This equipment is located in Cyprus, Libya, Jordan, and Aden as well as at the Suez base itself.

The companies have employed 600 British technicians, another 400 British Commonwealth citizens, and 10,000 Egyptians. The job of building up a staff from scratch

began early this year and the transfer from military to civilian control has moved smoothly. The contractors are boasting that they probably will be able to run the base better than the military.

The companies are subject to Egyptian law, but are tax-free since they're "not engaged in commercial enterprise." However, each of the companies receives a nominal management fee retainer from the British War Office.

• • •

Soviets May Net Political Gains From Trade Pact With Pakistan

A Soviet-Pakistan trade pact seemed almost certain this week. No figures have been circulated on the size of the agreement being negotiated by a Russian delegation now in Karachi. But the Russians have indicated they are willing to take Pakistan jute and cotton in substantial quantities. The Pakistanis are particularly anxious to sell their cotton, badly hit by the U.S. decision to sell its surplus crop at lower prices (BW—Mar.10'56,p128).

The pact has important political implications. The Russians have asked permission to set up a number of trade centers in the country—which could be used as centers of subversive activity. The Soviets are pushing hard for a mission in Dacca, East Pakistan, where Communist influence already is considered strong.

• • •

Business Abroad Briefs

Foreign car sales in the U.S. from January through April came to a record 1.2% of total car sales. That's double last year's figure. Steadily rising Volkswagen sales are playing the biggest part in the upsurge.

Soviet oil rig sales to India now total \$2.8-million for three drilling setups as a result of a new contract signed a few days ago. A fourth drilling rig from Communist Romania is about to go into operation.

Mexican Light & Power Co., a Canadian-owned private utility in Mexico, took it on the chin from the government this week. In spite of the generally better relations between Latin American governments and foreign owned utilities (BW—Jun.2'56,p129), Mexico City authorized the Federal Electricity Commission to develop a hydroelectric site only a few miles from Mexlight's transmission lines in the state of Puebla. . . . Pres. Castillo Armas of Guatemala is facing a similar decision on whether to listen to nationalistic elements or grant American & Foreign Power's request for a long-term franchise. A "yes" would be the signal for the construction of new Foreign Power plants in Guatemala. . . . Meanwhile, the Glenn L. Martin Co. has contracted to sell a 57,000-kw. atomic plant to the Dominican Republic government.

General Mills and Pakistan's Habib & Sons have struck up a \$540,000 partnership. The new firm (Habib-General Mills) will process guar, a wild desert plant whose seed produces a gum used in fine quality textiles and paper and in controlling gas in oil wells.



Photo courtesy Fischer Baking Company, Newark, N. J.

"Protects bread 33% longer with only ½ the filters"

—REPORTS LARGE METROPOLITAN BAKERY

A most important cycle in the making of bread is proper cooling. In this large, modern bakery, one cooler alone handles 100,000 loaves a day. Air at just the right temperature slowly cools the bread as it passes from oven to wrapper. And, needless to say, the cooling air *must be clean*.

Originally this cooler required a double bank of throwaway-type filters. But frequent replacements were both expensive and time consuming. So they were replaced with a single bank of re-usable PLIOTRON Air Filters. Now only half as many filters give 33% longer service between cleanings. And projected annual filter costs are 70% less.

PLIOTRON, the world's first truly washable electrostatic air filter, can mean similar savings in *your* air distribution costs. How?

1. PLIOTRON removes up to five times as many fine dirt particles as ordinary filters. 2. It is depth-loading rather than surface-loading—the entire depth filters the air for longer, more efficient service between cleanings. 3. It lasts indefinitely. When dirty, a simple washing restores PLIOTRON to full efficiency—no oiling necessary.

PLIOTRON is available in standard panels to fit any air distribution system using ordinary filters. It is also available in new half-inch-thick panels for use in window air conditioners. And now, for extreme service conditions, there's the new heavy-duty PLIOTRON Air Filter.

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THE GREATEST NAME IN RUBBER

INTERNATIONAL OUTLOOK

BUSINESS WEEK

JUNE 23, 1956



Moscow is shooting for a pro-Soviet bloc in the eastern Mediterranean—one that would bind Egypt, Syria, and Yugoslavia together with economic as well as political ties.

This idea underlies the offers of economic aid that Soviet Foreign Minister Shepilov has been making to Egypt's Premier Nasser. It undoubtedly was one of the things that Soviet leaders raised with Tito during his triumphal visit to Russia.

Moscow's aim is to (1) turn Egypt's present neutralist policy into a Tito-type pro-Soviet policy; and (2) eliminate Western economic influence in Egypt and Syria and, finally, from the whole Middle East.

Shepilov seems to have offered Nasser everything but the moon.

- A loan to finance the entire cost (about \$1.2-billion) of the Aswan Dam—with 2% interest payable over 30 years in cotton and other products.
- A complete 5-year industrialization plan—with Moscow supplying the economic blueprints, the industrial equipment and knowhow, and the funds. The plan calls for training Egyptian technicians in the U.S.S.R. and for establishing Soviet industrial schools in Egypt.

Shepilov can be expected to make the same kind of offers—though on a smaller scale—to Syria. And if he sees an opening when he visits Athens, he'll probably repeat the performance.

Presumably Yugoslavia would be cut in on this whole business to (1) carry some of the economic burden; and (2) convince Cairo, Damascus, and Athens that they won't lose their independence in such a setup.

The big question now is whether Nasser will take the Soviet bait. He knows that this would make the Egyptian economy completely dependent on Russia for the next 30 years.

Before the Shepilov visit, Washington felt pretty sure that Nasser wouldn't take such a risk. This week U. S. officials aren't so sure. They now fear that the pressure for such a deal may be so strong in Egypt that Nasser will find it impossible to refuse.

—•—

Now that Tito has come to terms with Khrushchev over Stalin's grave, you can see a new pattern emerging in the Communist world.

Moscow is losing its former monolithic control. In fact, you now have three Communist centers—Moscow, Peking, and Belgrade. And increasingly Moscow will have to share with Tito its influence among the East European satellites.

At the same time the Kremlin is no longer able to keep Western Europe's Communist parties under its thumb (BW—Jun.16'56,p162).

For the West, there are minuses and pluses in this situation.

Clearly, Tito is back as an ally of the Soviet Union—though Yugoslavia is the only Communist country in Eastern Europe that isn't occupied by Soviet forces. As a result of his Russian visit, Tito has lined himself up with Moscow on all major issues between East and West.

While resistance to Moscow is disappearing in Yugoslavia, it seems to be growing elsewhere in Eastern Europe, especially in Poland—a trend that the West may be able to exploit. And in Western Europe, anti-Communist

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

JUNE 23, 1956

labor forces now have an opportunity really to cut local Communists down to size.

—•—

The Soviet government has tentatively agreed to have a U. S. agricultural-industrial exhibition staged in the heart of Moscow during the summer of 1957. This week, a special subcommittee of the House Committee on Agriculture began hearings to consider the pros and cons.

A private group, sparked by promoter Gottfried Neuburger of New York, holds the Soviet invitation. This apparently includes a contract—not yet executed—for the rental of two exhibition halls in Moscow's Gorky Park.

Neuburger has been busy for weeks trying to arouse interest for his project in Washington. One of the problems is whether the show should be a private or government venture. Officials of the State and Commerce Depts. hold that, if such a show is to be held at all, it should be operated as a U. S. government project.

Chmn. Harold Cooley (Dem.-N.C.) of the House Agriculture Committee is so strongly in favor of the idea that he set up the special subcommittee—headed by Rep. Victor Anfuso (D-N.Y.)—to investigate it.

Anfuso is equally enthusiastic. He wants Congress to adopt a resolution (1) giving semi-official governmental status to the Neuburger promotion or (2) directing the Administration to organize and operate a Moscow exhibition as an official U. S. government undertaking.

—•—

The Premiers of the Commonwealth are converging on London this week for talks that will severely test the unity of the Commonwealth—a group of nations that already has lost its racial unity and the bonds of a common crown.

Common political traditions plus personal ties still could hold the Commonwealth together—provided that the political attitudes and economic interests of its members don't clash too sharply. One of the big tasks of the London conference is to smooth over differences that now exist.

For one thing, you have the clash between Britain's alliance with the U. S. (fully shared by Canada, Australia, and New Zealand) and the "active neutralism" of India and Ceylon. Then there's the racial intolerance in South Africa that offends all the others, but especially India.

From the economic angle, you have (1) India's increasingly close economic relations with the Communist bloc; and (2) Australia's demand for a larger share of the British market for wheat, meat, and dairy products—a demand that conflicts with London's interest in good trade relations with the U. S. and Canada.

—•—

London and Washington are worried by the resignation of Indian Finance Minister C. D. Deshmukh. They feel that this removes an obstacle against both inflation and socialism. Deshmukh is a Western-trained, conservative economist who has been fighting the trend against more government spending and more government enterprise.

But one reassuring economic note has just come from India. Prime Minister Nehru has himself promised that under no conditions would the government nationalize Tata Iron & Steel. Tata is India's outstanding example of Western-type enterprise, is now expanding with the help of a World Bank loan.



Who pitches in for steel?

Here's how America's banks back one of the nation's most useful industries

No matter where you look, steel scores.

Whether you skipper a battleship, wind your watch, raise a skyscraper, or broil a steak—you're depending on steel. As a matter of fact, the steel industry has contributed mightily to victory in two world wars. And today steel is vital to our national security and peacetime progress.

The story of steel production, and its 118% increase in the last 20 years, is a story of people. Of men

who dig the ore. Of millowners and workers who last year alone produced 117,036,085 tons of steel. Of people who blend and refine alloys. And of bankers, too.

Banks help provide steel companies with the money they need to get iron ore out of the ground, transport it to the mills and convert it into steel. Bank loans supply funds for plant expansion... help finance finished steel products.

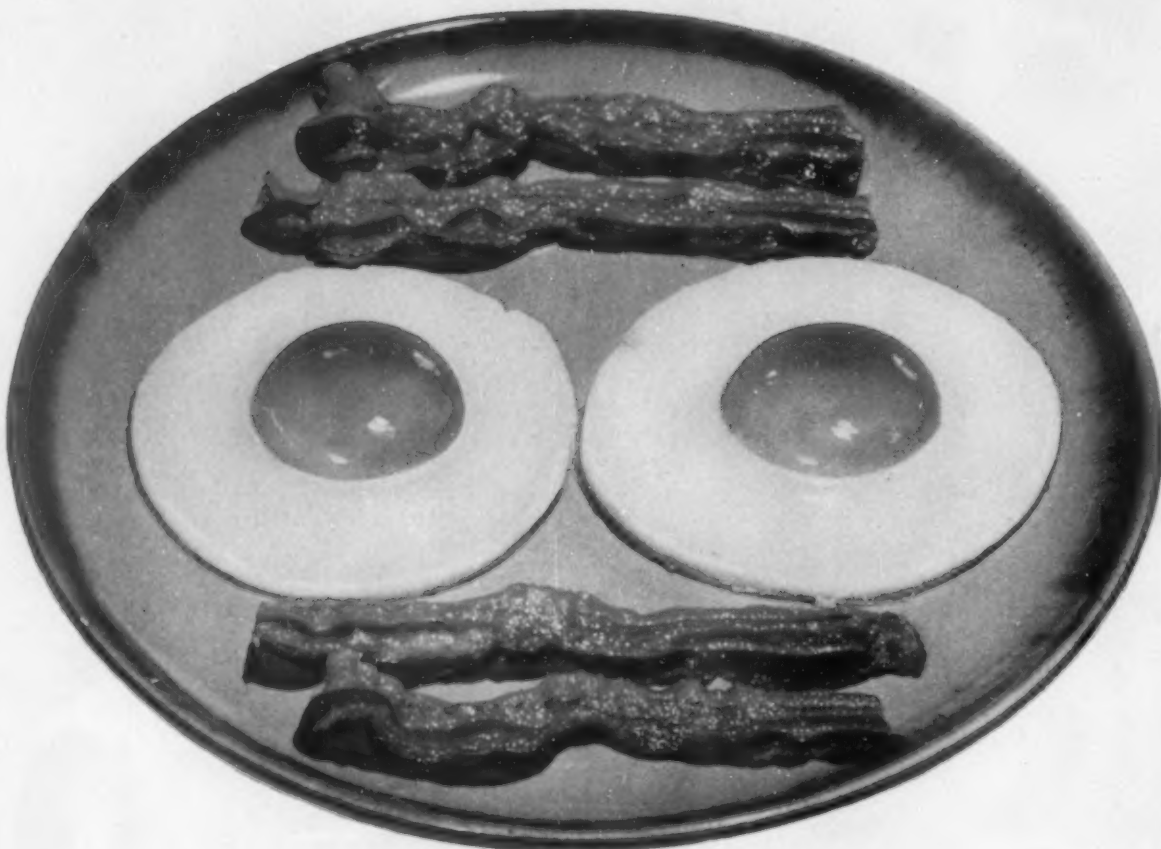
Actually, look where you will in American business or industry,

and you'll find commercial bankers using their services and resources to stimulate industrial growth which benefits all of us.

The Chase Manhattan Bank of New York, leading lender to U.S. industry, presents this brief story to illustrate the part commercial banks play in the progress of our country.

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In Washington

. . .

Antimerger Law Gets Boost From Publishers' Case

Chances that the antimerger law will be rewritten may have become a bit better this week.

The added pressure for a new law—particularly one requiring that merging companies notify the government in advance—came from Federal Trade Commission hearing examiner Frank Hier. In the Farm Journal merger case he said:

- Farm Journal, Inc., violated the antimerger law by acquiring its leading rival, Better Farming (formerly Country Gentleman) from Curtis Publishing Co.

- But there isn't much that FTC can do about the merger. To take away from Farm Journal what it bought from Curtis—the trade names Better Farming and Country Gentleman, and lists of subscribers and advertisers—would accomplish nothing.

The whole case, he says, shows how "inadequate and ineffective" the present antimerger law is without the legislation—now pending in Congress—requiring pre-merger notification.

After Hier's blast, FTC added more heat to its call for more power to police the antimerger law by announcing that last year:

- Mergers in industry totaled 846; the highest recorded in the five years since the new antimerger law went on the statute books.

- A trend toward more mergers by big companies got more noticeable. Of the 846 mergers, 689 were in the manufacturing and mining industries, and 70% of these acquisitions were by companies with assets of \$10-million or more.

. . .

Senators Still Press Question:

Who Shelled Out in Gas Bill Fight?

Investigating senators are still trying to solve one of the year's best-kept secrets: Who, if anyone, put big money into large-scale lobbying on the controversial natural gas bill that was finally vetoed by Pres. Eisenhower?

The special Senate committee investigating lobbying has heard testimony that the gas and oil industry's Natural Gas & Oil Resources Committee spent more than \$1½-million during the 16 months preceding Congressional passage of the gas bill.

But the head of the committee, Leonard F. McCollum, president of Continental Oil Co., last week told the senators that the group didn't spend money in direct efforts to push the gas bill through Congress. Instead, he said, it carried on a long-range educational program to promote better understanding of the industry.

This statement raised tax questions. Sen. Clinton Anderson (D-N.M.) wanted to know if gas companies that contributed to the educational campaign treated their

contributions as regular business expenses. McCollum said Continental Oil did just that. And Anderson promptly read McCollum a passage from Internal Revenue Service regulations that says "exploitation of propaganda, other than trade advertising" cannot be deducted from gross income. So, Anderson said, gas companies may have run afoul of IRS rules.

The senators switched their investigation to the other side at midweek and called on two groups that opposed the gas bill to explain what—if anything—they did to defeat the measure. These groups are the Council of Mayors and the National Institute of Municipal Law Officers.

. . .

Pentagon's Secret Black List Of Contractors Irks Congressman

A House Armed Services subcommittee chairman has turned a bleak eye on the Pentagon's "black list" of military contractors.

The list includes at least 600 companies that have been prohibited from entering into contractual relationship with the armed services. All of these companies know when they are black-listed; most of them have violated federal minimum wage laws, been convicted of criminal offenses involving military procurement, or have flopped in performance. None of them is nationally known.

It's another part of the black list that has roused subcommittee skepticism. A hundred Army, 64 Air Force, and 7 Navy contractors have been "suspended" because they are "suspected of having committed fraud or a criminal offense" while performing or trying to land military business. A Defense Dept. regulation bars these companies from new contracts—and from learning that they have been black-listed.

Last week, Chmn. F. Edward Hebert called this rule of silence a "highhanded and unfair practice." But a Pentagon spokesman argued that telling the contractor of his plight might "jeopardize the investigation of alleged fraud."

. . .

Last of the Rubber Plants Goes Back to Auction Block

Congress this week put the last of the government's big wartime-built synthetic rubber plants—the alcohol butadiene plant at Louisville, Ky.—back on auction.

The House vetoed by voice vote the proposed sale of the plant to Union Carbide & Carbon Corp. after it heard findings by Atty. Gen. Herbert Brownell and Comptroller General Joseph Campbell that Carbide didn't intend to produce butadiene at the plant and that this violated a requirement of the disposal law.

The House will vote next week on a bill allowing the plant to be sold without restricting the buyer to get it into butadiene production in an emergency.

With this restriction out of the way, the Rubber Disposal Commission expects there'll be many more bidders for the plant and that bids will be higher than the \$3,150,000 that Carbide offered.

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**Saves 87% in cost
Saves 85% in space**



For a quick, easy, economical way to modernize your present production equipment, talk with any MICRO SWITCH distributor. He can tell you how many manufacturers in many industries have been able to postpone the purchase of new machines by equipping existing machines with MICRO Switches. More automatic, higher speed production and greater safety have been obtained at surprisingly little cost. And a MICRO SWITCH Engineer collaborating with a MICRO SWITCH Distributor can help to effect these improvements and consequent savings.

Cramped for Space?



Do you know that you can group 64 highly precise, compactly designed MICRO Sub-miniature Switches in a panel only $5\frac{3}{4}'' \times 7\frac{3}{4}''$? That is space saving with a vengeance! A well-known manufacturer of airborne navigation equipment is doing that very thing.

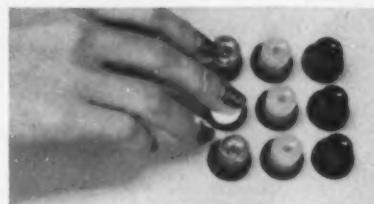
If you want to speed up gaging—



—ask us about how an electronic sorting gage automatically sorts from 60 to 120 mica parts a minute because of the extreme precision, accurate repeat operation and long-life dependability of MICRO Switches. This is just another example of the great versatility of these fine switches.

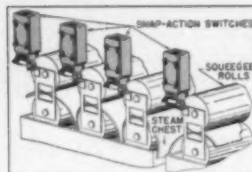
"Any other switch that would do the job would cost eight times as much and require a control box seven times as big," so says the designer of a tapping machine which employs a MICRO Precision Switch that operates 96,000 times a day under extremely close tolerances. This is one of thousands in the MICRO SWITCH line — each one designed for a specific service.

Lots of—in little space



MICRO Precision Illuminated Push-Button Switches with their ease of operation, compact design, high pre-travel, smooth appearance and easy-to-see pilot light, mount on one-inch centers, thus permitting twice as many in a given space. Small operating force (ounces) minimizes operator fatigue. High pre-travel obviates operator errors. Space-saving with light in switch cuts panel costs in half.

How one textile mill reduces fabric and production losses



Four heavy-duty MICRO Limit Switches modernize a bleach range. This inexpensive improvement has resulted in material savings by reducing fabric and production time losses.

Your Production Man Should be Getting This FREE "How Others Do It" Publication



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Labor Disputes: Big Year in Court

● More than ever before, the Supreme Court acted as final arbiter of labor-management conduct.

● Each side—labor and management—came out on top in about half the cases decided since October.

● Though many important decisions were handed down, next fall's term still has a heavy labor docket.

This has been a year in which editors of afternoon newspapers have had to keep their Monday front pages open for a Washington wire. Monday is decision day for the U.S. Supreme Court, and all session long the court has been dealing with weighty and explosive issues.

Rulings on race relations, states' rights, internal security, and civil liberties made the court a prime news source. And—perhaps even more important to employers—the court in its session just ended has filled more fully than ever before its role as final arbiter of labor-management conduct.

There were two main reasons for the court's heavy labor docket:

- The areas where labor-management rules are routinely set—Congress and the National Labor Relations Board—have been notably inactive in labor policy matters this election year. More and more, employers and unions have turned to the courts for rulings on issues in dispute.

- Some basic cases, involving clarifications of the Taft-Hartley Act, are just now working their way up to the Supreme Court docket.

- **Good Year's Work**—Before they went on vacation last week, the court's nine justices turned out a score or more of labor decisions—including at least a half-dozen important policy rulings. The 1955-56 term was without doubt one of the court's busiest in the field of labor-management relations.

While they cut into the labor case docket, the justices lacked the time to handle all of the important issues that were pending; many had to be passed over to the fall term. The list will grow in the next five months as other cases pass through the lower courts. By the time the Supreme Court sits again, the docket will be imposing.

Among issues already scheduled for consideration are how far unions can go in political action, the legality of slowdowns and other harassing tactics, the legality of strikes during long-term contracts, and further questions of state

versus federal control of labor-management relations.

- **Crop of Rulings**—In the 1955-56 term, the court handed down a number of important rulings. Among other things, it held:

- The union shop is legal for railroad workers in all states, under the overriding Railway Labor Act; state "right to work" laws can't bar it.

- Employers must bargain on stock purchase plans under certain conditions.

- Employers can be required to disclose company financial data if, during contract bargaining, they argue that they can't afford a wage increase because of company finances.

- States have authority to act against union picket line violence even though the violence may be covered by a federal labor law.

- Union organizers who aren't also company employees can be barred, under some circumstances, from using a company parking lot.

- **Won and Lost**—Unions and management won and lost about equally in the court cases. An AFL-CIO lawyer who argued some of the union cases said this week that the outcome was "just about 50-50" in the past term. An employer attorney who also handled cases before the court gave a similar opinion on the "break" of the biggest labor-management cases.

Attorneys for employers list two decisions against them as important losses, although they add that there is an opening for further court action in each of the two—(1) the Richfield Oil Co. ruling that a stock purchase plan is a bargainable issue, the same as wages, and (2) the decision requiring the disclosure of company financial data.

- **Still Debatable**—While these two rulings, particularly, denied management arguments that an unwarranted union invasion of employer rights was at stake, the decisions weren't clear-cut.

For instance, the high court's Richfield Oil decision was directed at the

method under which the company's stock purchase plan was set up. Presumably, therefore, other methods may not be subject to the court's order. Further court tests on this issue are undoubtedly ahead.

Also, the court held specifically in the company records case that its ruling was directed at one particular situation, so similar pleadings in other cases—certain to reach the court—may not have the same outcome. However, attorneys note that there is a growing tendency in the courts to require employers to furnish private data to the union in bargaining where inability to give a pay hike is argued; the pressure will continue to be on the employer in such cases.

- **Two Clear-Cut Cases**—Generally, neither labor nor company attorneys found any "big surprises" in the court decisions. Both agreed that, as in the Richfield Oil and company records cases, most of the rulings weren't broad or clear-cut. Only two of a number on the issue of state vs. federal jurisdiction—one of the year's biggest questions—appeared to have no loopholes.

One of these was the ruling on the union shop under the Railway Labor Act, which flatly stated that a federal law can override state "right to work" laws by specifically barring state curbs on policies that are permitted by federal law.

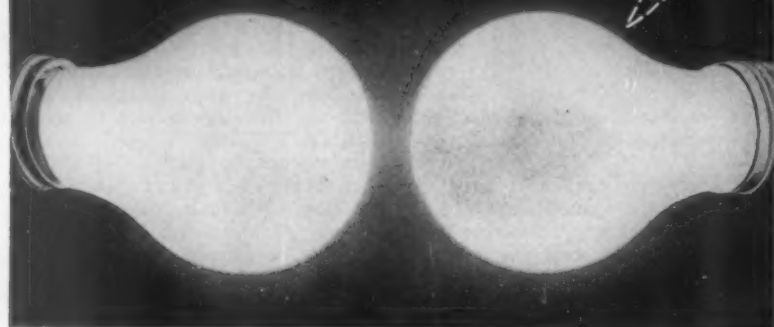
The second was the high court's decision allowing a state labor board to act against union violence even though it is covered by federal law—in this instance, the Taft-Hartley Act.

- **Lineup of Court**—The votes of the nine justices appeared to follow a close pattern on labor cases. Union and management attorneys assessed the lineup this way: Chief Justice Earl Warren and Associate Justices William O. Douglas and Hugo Black frequently cast ballots favoring the union position; Associate Justices Stanley Reed, Sherman Minton, and Harold Burton usually voted against the union position, and Associate Justices Tom Clark, Felix Frankfurter, and John Harlan swung from one side to the other. Justice Harlan emerged as the key man in most of the split labor decisions; he was found with the majority in most of the cases, no matter which side came out on top.

The Supreme Court judges would be the first to resist such labeling, but each succeeding week the decisions seemed to fit into this pattern. As a result, few labor cases were decided

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unanimously or by a heavy majority; the decisions were five-to-four or six-to-three most of the time.

• **Coming Issues**—Divergent rulings in the lower courts have brought these key issues up to the high court for the October session:

Politics—(United Auto Workers vs. U.S. Attorney General). Can a union use dues money to sponsor television shows in behalf of political candidates without violating the Corrupt Practices Act? Some eight years ago, the CIO won a five-four decision in the Supreme Court on the right to favor a candidate in its newspaper, but some union attorneys see the TV case as an even more critical challenge to labor's political action.

Harassing tactics—(Personal Products Corp. vs. Textile Workers Union). Is it an unfair labor practice for a union to conduct slowdowns and other partial-strike maneuvers during collective bargaining? The law says employees can now legally be fired for such actions, but a ruling against the union would permit a quick court injunction to block the maneuver without requiring the employer to discharge the employees.

Wage reopener strike—(Lion Oil Co. vs. NLRB). Can a union strike during a long-term contract at the time of a wage reopener if it gives 60 days' notice as required by Taft-Hartley, or must it wait until the contract actually runs out? Unions have always acted on the premise that a strike is permissible at reopening time, and a high court ruling to the contrary would have a sharp effect on the negotiation of agreements that can be opened midway.

State-federal jurisdiction—(San Diego Building Trades Council vs. Garmon). Can the states take over labor cases that fall in NLRB's "no man's land"? This is the territory that would come under NLRB but which the board has specifically ruled outside its province.

Union attorneys, in the last weeks of the Supreme Court session, attempted to get action in a case challenging NLRB's jurisdictional yardstick, but the justices refused to take it. Labor wants to require NLRB to drop its jurisdictional limitations, with the idea that unions fare worse where they face state labor boards.

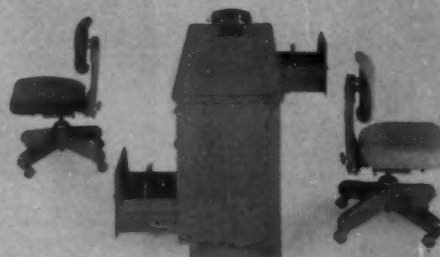
• **Change in NLRB?**—In part, labor's interest in getting the high court to review NLRB policies is based on a belief that a change in policy within the board—a shift to a position more acceptable to labor—is unlikely now.

Ivar H. Peterson, a holdover Democratic appointee, is expected to leave the board this year. His term expires Aug. 27. To avoid possible political repercussions, the Administration may delay a new appointment until after the November election. **END**

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STEELWORKERS' David McDonald (left) rejects "adequate" offer from (left to right) U. S. Steel's John Stephens, Republic's Thomas Patton, and Bethlehem's John Morse.

Joint Bargaining Bogs Down

The United Steelworkers returned—at least temporarily—to separate contract negotiations with basic steel producers this week after failing to get an "adequate" offer from the industry's Big Three in joint bargaining.

Late last week, U. S. Steel, Bethlehem Steel, and Republic Steel offered the union a five-year contract with concessions valued by the industry at 65¢ an hour during the term of the agreement. The package included a 6¢ boost in base pay and cumulative 0.2¢ increases in the increments between 32 job classifications, both to be given annually. The raises would average about 7.4¢ an hour. The industry called this a fair and reasonable offer.

• **No Sale**—Not unexpectedly, USW flatly rejected it, challenging the industry's calculation of the offer's value. In a matter of hours, negotiations shifted from the scholarly and amicable to intemperate. The Big Three served notice that its "carefully considered" offer was to be considered final. U. S. Steel's John Stephens warned that it was "no floor from which we will bargain upward, but the ceiling." The Big Three said it would bargain further but only within the framework of the original offer; in the words of Bethlehem's John Morse, it would not bargain to "increase the employment costs or . . . reduce the term of the contract we have offered."

Although the top three steel producers and the union said, separately, that bargaining would continue, hopes for an early and peaceful settlement

were dim at midweek, as USW turned its attention to talks with the industry's 11 leading steel producers on an individual basis.

• **Soft Spot**—The union's hope presumably was to find some soft spot to exploit with pressure for a contract running less than five years and offering more in economic benefits. The union said it would accept an agreement for more than one year if it is "a reasonable one we can live with." At the same time, it took exception in company-by-company bargaining to the industry's estimate of the value of the joint-bargaining offer; USW contended that instead of a total 65¢ over five years, the value was really 45.3¢ an hour in increases by 1961.

• **Next**—Meanwhile, USW got set this week for another not directly related round of hard bargaining. The union's Aluminum Workers Div. opens contract talks with Aluminum Co. of America in Pittsburgh next week. USW demands covering 12 Alcoa plants under its contracts are similar to the key ones in basic steel.

In addition, the USW aluminum workers want overtime for any hours worked in excess of a normal eight per day, and overtime for any work on the sixth or seventh days of an employee's work week—regardless of the total number of hours worked in the first five days. USW also wants geographical and interplant wage differentials eliminated, as they have been in steel, and tighter restrictions against contracted-out work. **END**



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Armistice Near

Meany's plan for division of factory construction work may end age-old war between craft and industrial unions.

The jurisdictional wrangle between AFL-CIO craft and industrial unions appears on the way to settlement.

The first concrete steps toward solving the age-old war between the two groups were taken by AFL-CIO Pres. George Meany. At the same time, Meany persuaded the federation's Building Trades Dept. to call off its boycott against state AFL-CIO mergers within the new federation.

• **Plan**—The moves followed a meeting last week between Meany and 19 craft-union presidents, headed by Building Trades Dept. Pres. Richard J. Gray. At that session, Meany urged Gray to rescind his policy of opposing mergers of state and local AFL and CIO groups until all jurisdictional questions are settled. At the same time, the federation president set up this plan for settlement:

• He named a six-man committee, all members of the executive council, to draw up a formula for dividing construction work in the nation's factories between craft and industrial unions. The members are Walter Reuther of the Auto Workers, L. S. Buckmaster of the Rubber Workers, and David J. McDonald of the Steelworkers; and, for the crafts, Harry C. Bates of the Bricklayers, Maurice Hutcheson of the Carpenters, and Joseph Keenan of the Electrical Workers. Meany will serve ex officio as the committee chairman.

• After a formula is drawn up, any disputes that arise between craft and industrial unions will go to the committee already set up by the Building Trades Dept. and Industrial Union Dept. This group will referee any conflicts by serving as interpreter of the new policy.

Such a formula would also help to settle current work disputes between the two unions groups. At present, more than 18 such disputes are going on.

• **Optimistic**—After the conference, Gray commented: "We believe the Meany plan will be the means of settling this controversy to the satisfaction of all concerned."

Gray's remarks were made in a letter this week to all state and local building trades organizations, directing them to "discontinue your efforts" against merger of AFL and CIO organizations. He specifically noted that he was recalling his Apr. 27 letter opposing such mergers. **END**

BUSINESS IN MOTION

To our Colleagues in American Business...

In making gas pressure-reducing valves and relief valves for hot water tanks, a famous manufacturer has to drill brass rod deeply. Originally the rod was free-cutting brass. When we had the opportunity to study the operations in the shop it seemed evident that Revere's Deep-Drilling Brass Rod should offer some economies. When drilled, this alloy produces very small, easily cleared chips, much smaller than free-cutting brass. The latter is excellent for most applications, particularly for external machining, or for shallow drilling, but for really deep holes, deep-drilling brass is superior. So the customer agreed to try it. The results were most satisfactory. The shop foreman reported that tool life was increased over 200%. In addition, it is possible to bore one item with a single operation, against the former practice of withdrawing the drill three times in order to clear the chips.

Another interesting experience with the same manufacturer involves a high-pressure gas valve, with a cast brass body and a brass rod stem, both machined to close tolerances. There was galling and flaking between stem and seat. Our analysis was that the two brasses were too close in hardness. The recommendation: switch to arsenical bronze valve stems, which have a higher hardness, and a greater torque strength. This proved to be the answer, making possible a better product, with fewer rejects due

to trouble at the seat. The more suitable alloy costs more per pound, but saves money in the end.

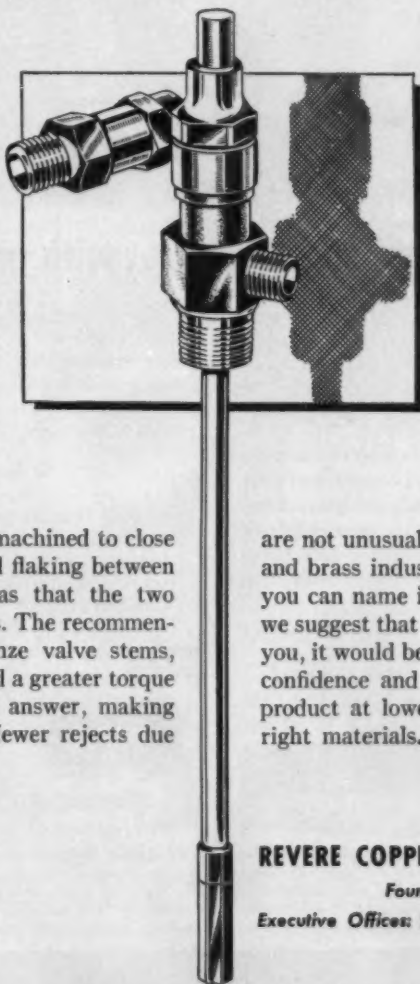
Here is a third example of our work with the same company. It was designing a new temperature-pressure relief valve for hot water tanks. The original model, hand-made for test purposes, had been machined out of solid hexagon brass rod, one inch outside diameter, and over half the weight had gone into scrap. It was recommended that

on a production basis a Revere high-leaded brass tube be used, hexagon outside, round inside. A trial order of only 2,000 pounds immediately proved itself.

The customer reported that though the tube costs more per pound, he buys less weight per foot, machine time is reduced substantially, and a much better machined surface is obtained. The latter is extremely important on the inside of the valve, which is machined to a seat.

These examples of the wisdom of paying more per pound in order to make a better product and save money in addition

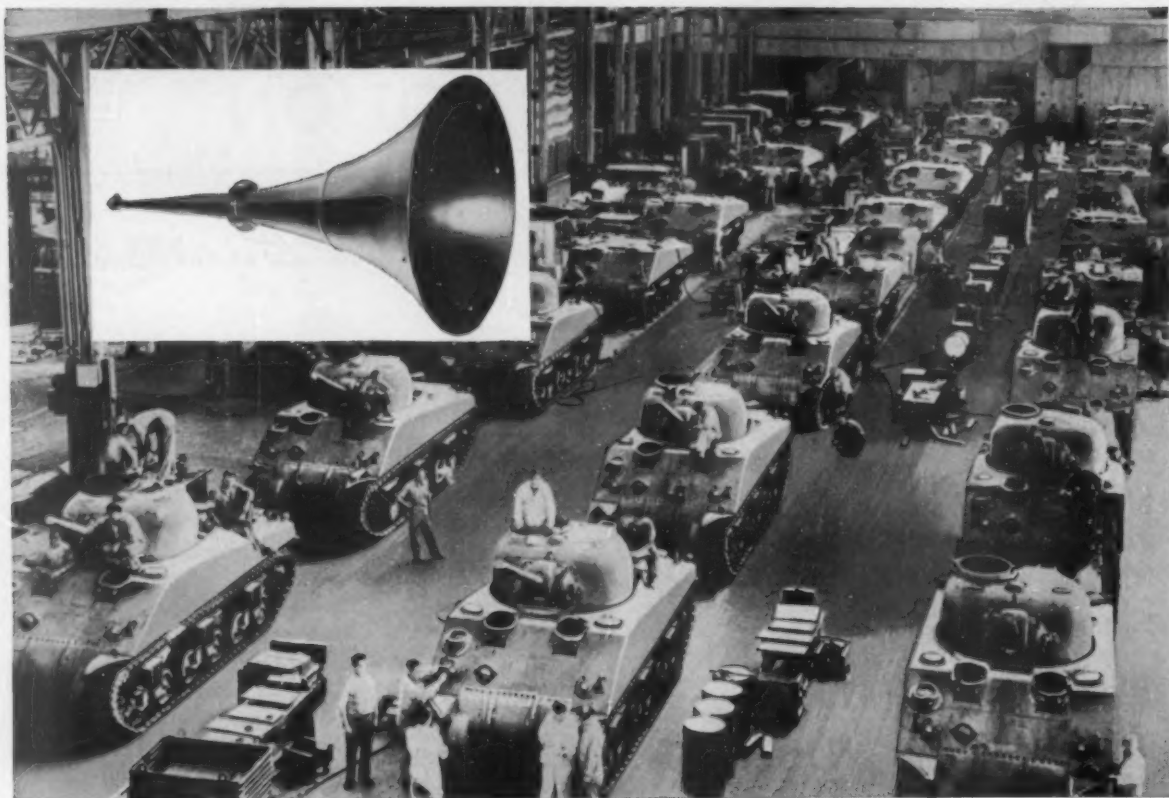
are not unusual with Revere. Not only the copper and brass industry but practically every industry you can name is able to cite similar instances. So we suggest that no matter what your suppliers ship you, it would be a good idea to take them into your confidence and see if you cannot make a better product at lower costs by specifying exactly the right materials.



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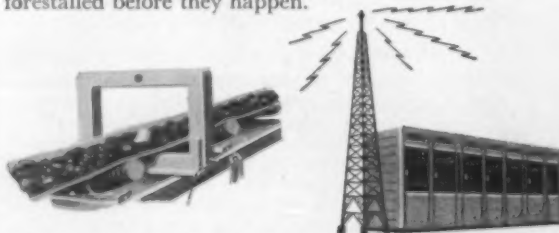
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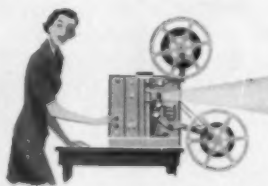
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In Labor

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Wage Pattern in Copper Glimpsed As Bargaining Starts Smoothly

This week, the first signs of a wage pattern in copper emerged. Early indications are that bargaining this year will be smoother than last year when western mines of three major copper companies were struck for over a month.

Phelps Dodge Corp. became the first major copper producer of the season to sign with the Mine, Mill & Smelter Workers. The three-year contract, effective July 1, provides pay hikes totaling 24¢ an hour for the company's 2,300 Arizona miners. Increases are spread over three years—10¢ the first year, 7¢ each year after that.

Earlier, American Brass Co., Anaconda's fabricating subsidiary, reached agreement with MMSW calling for pay raises of 24¢ an hour over three years, plus improved vacations and welfare benefits valued by the union at 10¢ an hour. A similar agreement was signed with Chase Brass & Copper Co., a Kennecott subsidiary.

At midweek, Anaconda Co. agreed to a three-year non-reopenable contract with MMSW covering some 7,000 workers. Wages increase 10¢ an hour the first year, 6¢ the following two, plus an average of 1¢ an hour the second and third years for realignment of classification rates. Wage boosts plus benefit increases bring the package to 27¢ an hour. At the same time, American Smelting & Refining said it had agreed in principle to a similar pact. This left only Kennecott Copper Corp., still bargaining; copper spokesmen looked for a quick settlement.

• • •

"Hot Cargo" Clauses Face Court Scrutiny

Next month, a federal court in Oklahoma City will take a close look at the legality of controversial "hot cargo" clauses in trucking labor agreements.

A typical "hot cargo" clause provides that the employer signing the contract won't accept goods from truckers that the union lists as "unfair." Such a clause is similar to "hot goods" agreements in other industries where union members refuse to work on or handle material made by an "unfair" company.

The company bringing the suit in Oklahoma is Galveston Trucking Lines, a concern licensed to operate mainly in Texas and Oklahoma. The trouble started when the Teamsters demanded that Galveston, a nonunion firm, join a trucking association and sign an agreement with the union. When Galveston refused, the Teamsters called attention of the members of the association to the "hot cargo" clause in their contract, branded Galveston "unfair."

Since Galveston is limited to two states, it has to transfer to other trucks cargo bound for destinations

outside its operating area. Several of these carriers, members of the trucking association, have refused to accept Galveston's "hot cargo" at transfer points.

Now Galveston is contending that trucking companies, as common carriers, have a public responsibility to carry cargo properly offered for shipment, that "hot cargo" clauses interfere with this responsibility and therefore are illegal.

The case probably will go to higher courts for final decision. If the contested clauses are ruled illegal, it will be a severe blow to the Teamsters who rely heavily on such agreements for organizing pressure.

• • •

Small Loan Business Catches SUB Fever

SUB fever, a common malady around Detroit these days, has reached the small loan business. The employees credit union of UAW Local 724 in Lansing, Mich., is pioneering an SUB-type loan program that could set a pattern for small plants without SUB plans of their own.

A laid-off member can get weekly benefits equaling 5% of his state unemployment compensation check multiplied by his years of seniority. This amount is multiplied by 26 weeks, the period covered by SUB plans. Then, the total is deposited in a lump sum to the employee's credit union account. He can withdraw it as he needs it during unemployment.

There's one big difference between this plan and SUB. Here, the employee must pay back whatever he receives plus interest; under SUB he doesn't, since the benefits are paid for by employers.

A credit union member can draw a minimum of \$10 weekly under the plan, a maximum of half his weekly UC check. Any member is eligible, provided he is a good risk and has good reasons for borrowing the money. This same test is applied to a worker seeking a loan when he is employed.

The program is described as a stop-gap measure to prevent eviction of a worker or repossession of his property. It arose because increased unemployment benefits sought by UAW have not been realized.

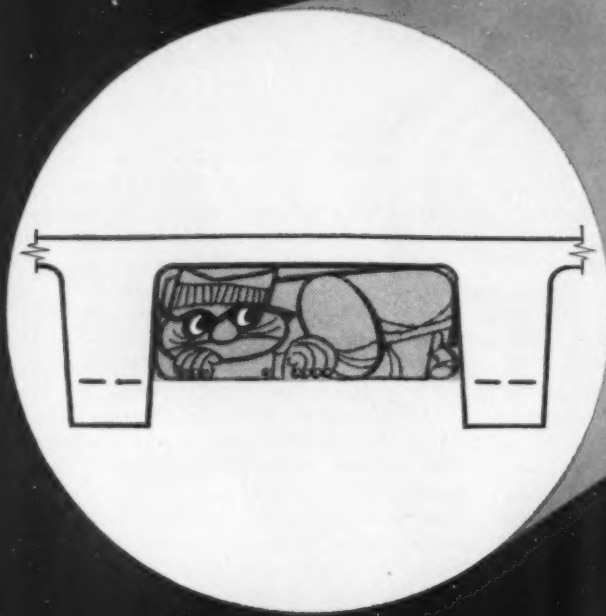
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Labor Briefs

John L. Lewis' return to AFL-CIO gained a strong new advocate last week when James A. Brownlow, president of the 21-union Metal Trades Dept., representing 3-million unionists, told a Chicago labor convention that he "regrets" the absence of the miners from AFL-CIO and of Lewis from the federation's executive council.

Seven years of labor peace is what Coca-Cola Bottling Co. of New York hopes will result from its new no-strike contract with the Soft Drink Workers union, affiliated with the Teamsters. The pact calls for no increase in wages or fringe benefits, but provides that all unresolved bargaining issues, including wage hikes, during the next seven years will be subject to arbitration. The agreement will get its first test this month when the union seeks changes in wages and working conditions.

A building "Whodunit"



The Case of the Dead Load

■ You want the facts, sir, just the facts. Well, it's this way. An overweight "con" called "Crete"—concrete, that is—was always loitering in the floor slab. His alias, "Lazy Concrete", fit him to a T... he was responsible for dead load. He'd extort 25% in added floor costs... pilfer construction time. He was apprehended by an architect who knew the crime of unnecessary dead load doesn't pay. By using Ceco-Meyer Steelform Construction, there was a saving of 25% in floor framing costs—structure completed on schedule in reinforced concrete, best building method known. And R-C Duct Floors with Ceco-Meyer Steelform Construction achieved electrical flexibility for any re-arrangement of office equipment. Case closed. See a Ceco Engineer for help on *your* building problem.



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THE MARKETS

Preferreds: Gaining Now After Lagging ...COLLECTIVELY...

WITH THE STOCK MARKET seesawing around at some 7% below its all-time high and many Wall Streeters wondering whether the bull market has lost its steam for good (page 108), the alternatives to equity investment have been getting more attention lately. Wall Street investment houses report an exceptional rush of inquiries about industrial and tax-exempt bonds and about preferred stocks.

Preferreds have been relatively ignored in the seven-year bull market. The chart at the right shows that while commons have boomed some 275% since the 1949 low, the preferred stock index actually stands lower than it did on that date. This lack of interest is easy to explain: Preferreds are fixed payment instruments, similar to senior debt obligations, and are more sensitive to money market conditions than to the forces that propel equities.

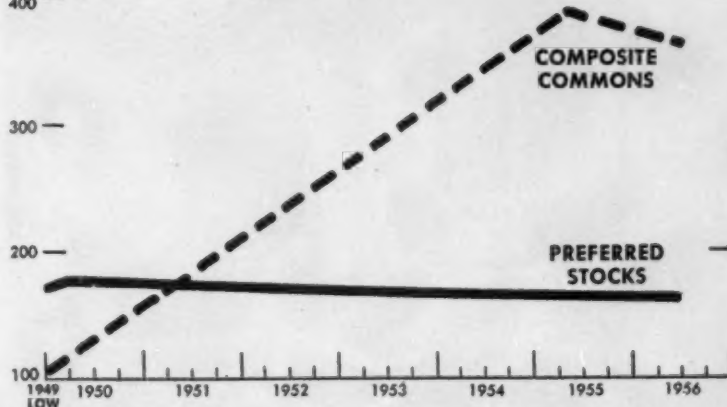
• **Sedate History**—Preferreds really had their heyday about the time of World War I. Since then they have followed a sedate course. As you would expect, their price holds up better than commons' in a general market collapse, but preferreds don't have anything like the same appreciation potential as equities. (Exceptions are, of course, the many preferred issues that are convertible into common stock.)

But in a time like this investors begin casting about for defensive issues and issues affording attractive yields. Preferreds have better sticking power when a downturn shows up, they get a crack at dividends before common shares qualify them, and yields on many preferreds are better now than yields on the same company's common.

• **Comparison**—Many Streeters consider that today there are plenty of bargains to be found in the preferred lists. Look at the comparative yields on these issues, for instance: U.S. Steel's common at current prices yields 3.6%; while its 7% preferred affords a yield of 4.3% at today's market; du Pont's common yields 3.4%, its 4½% preferred, 3.8%; Crown Zellerbach's common yields 3.3%, its \$4.20 preferred issue yields around 4.1%.

Ordinarily, because they get a crack at dividends ahead of common stock and because their position is relatively safer, you would expect preferreds to yield something less than commons. But, even with stock prices below their highs in many cases, and yields conversely sweeter, many preferreds today yield considerably more than their common cousins. **END**

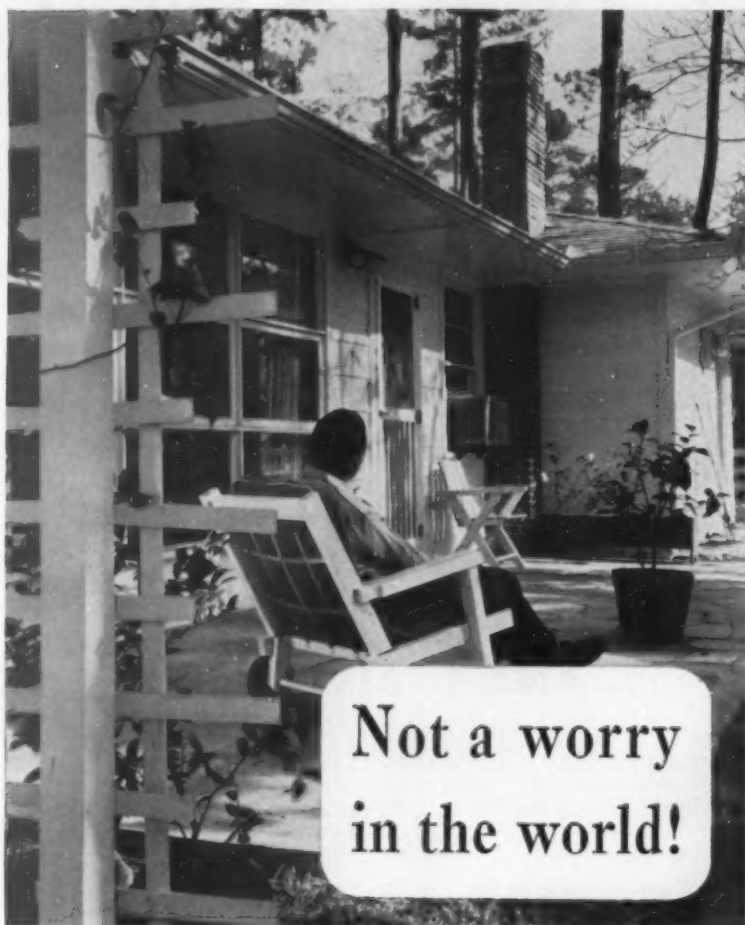
Standard & Poor's Corp. Stock Indexes



...AND INDIVIDUALLY

| Preferred Issues | 1949 Low | Subsequent High | Recent Level | 1949-56 Gains | |
|------------------------------|----------|-----------------|--------------|---------------|----------|
| | | | | Maximum | Recently |
| American Can 1½% | \$43.13 | \$48.75 | \$45.12 | 13.0% | 4.6% |
| American Radiator 7% | 178.00 | 185.00 | 164.00 | 3.9 | -7.9 |
| American Smelting & Ref. 7% | 142.00 | 172.00 | 163.50 | 21.1 | 15.1 |
| American Sugar 7% | 120.00 | 147.75 | 139.00 | 23.1 | 15.8 |
| American Tobacco 6% | 135.00 | 158.00 | 136.75 | 17.0 | 1.3 |
| Atch., Topeka & Santa Fe 5% | 48.75 | 62.00 | 58.25 | 27.2 | 19.5 |
| Bethlehem Steel 7% | 129.50 | 172.00 | 147.75 | 32.8 | 14.1 |
| Colgate-Palmolive \$3.50 | 89.00 | 101.50 | 88.25 | 14.0 | -0.8 |
| Corn Products Refining 7% | 171.50 | 187.50 | 172.50 | 9.3 | 0.6 |
| Crown Zellerbach \$4.20 | 94.00 | 107.00 | 103.00 | 13.8 | 9.6 |
| E. I. du Pont 4½% | 119.00 | 127.25 | 118.00 | 6.9 | -0.8 |
| Eastman Kodak 6% | 164.00 | 190.00 | 160.00 | 15.9 | -2.4 |
| Firestone Tire & Rubber 4½% | 105.00 | 108.00 | 104.50 | 2.9 | -0.5 |
| General Mills 5% | 123.75 | 129.50 | 120.00 | 4.6 | -3.0 |
| General Motors 5% | 123.12 | 127.87 | 122.37 | 3.9 | -0.6 |
| Hershey Chocolate 4½% | 52.00 | 54.87 | 52.62 | 5.5 | 1.2 |
| International Harvester 7% | 164.50 | 181.00 | 164.00 | 10.0 | -0.3 |
| Liggett & Myers Tobacco 7% | 170.00 | 187.00 | 159.25 | 10.0 | -6.3 |
| P. Lorillard 7% | 153.00 | 174.00 | 138.00 | 13.7 | -9.8 |
| R. H. Macy 4½% | 95.50 | 105.00 | 89.75 | 9.9 | -6.0 |
| May Dept. Stores \$3.75 | 89.00 | 101.50 | 93.00 | 14.0 | 4.5 |
| National Biscuit 7% | 170.25 | 186.00 | 172.00 | 9.3 | 1.0 |
| National Lead 7% | 169.50 | 185.50 | 170.00 | 9.4 | 0.3 |
| Norfolk & Western 4% | 29.00 | 33.50 | 25.37 | 15.5 | -12.5 |
| Pacific Gas & Electric 6% | 33.00 | 38.00 | 35.25 | 15.2 | 6.8 |
| Pacific Tel. & Tel. 6% | 135.00 | 154.50 | 145.00 | 14.4 | 7.4 |
| Philadelphia Electric 4.40% | 110.25 | 116.25 | 108.50 | 5.4 | -1.6 |
| R. J. Reynolds Tobacco 3.60% | 85.25 | 99.50 | 86.00 | 16.7 | 0.9 |
| Standard Brands \$3.50 | 82.00 | 96.75 | 86.25 | 18.0 | 5.2 |
| Union Pacific 4% | 48.00 | 54.00 | 49.87 | 12.5 | 3.9 |
| United Shoe Machinery 6% | 37.50 | 43.00 | 36.75 | 14.7 | -2.0 |
| U. S. Gypsum 7% | 175.00 | 189.00 | 174.50 | 8.0 | -0.3 |
| U. S. Steel 7% | 129.75 | 162.00 | 161.50 | 24.9 | 24.5 |
| Virginian Railway 6% | 29.00 | 33.50 | 31.37 | 15.5 | 8.2 |
| Westinghouse Electric \$3.80 | 98.50 | 105.50 | 96.12 | 7.1 | -2.4 |

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In this new home in Columbia, South Carolina, Wolmanized lumber was used throughout. This lumber is protected against termites and decay by pressure-treatment with Wolman brand preservative.

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Wall St. Talks . . .

. . . about copper price trend . . . the glut of appliances . . . oil reserves . . . the municipal bond market.

Copper is likely to slump to 35¢ a lb. before stabilizing. That's the feeling of more and more smart Streeters, as well as of leading foreign producers. As the head of a big African group said recently, a 35¢ price would discourage competition from copper substitutes, yet provide producers with a fair return. This week his group again cut its price, from the equivalent of 40¢ to 37½¢. In the U.S., primary producers quote 46¢ and custom smelters, 40¢.

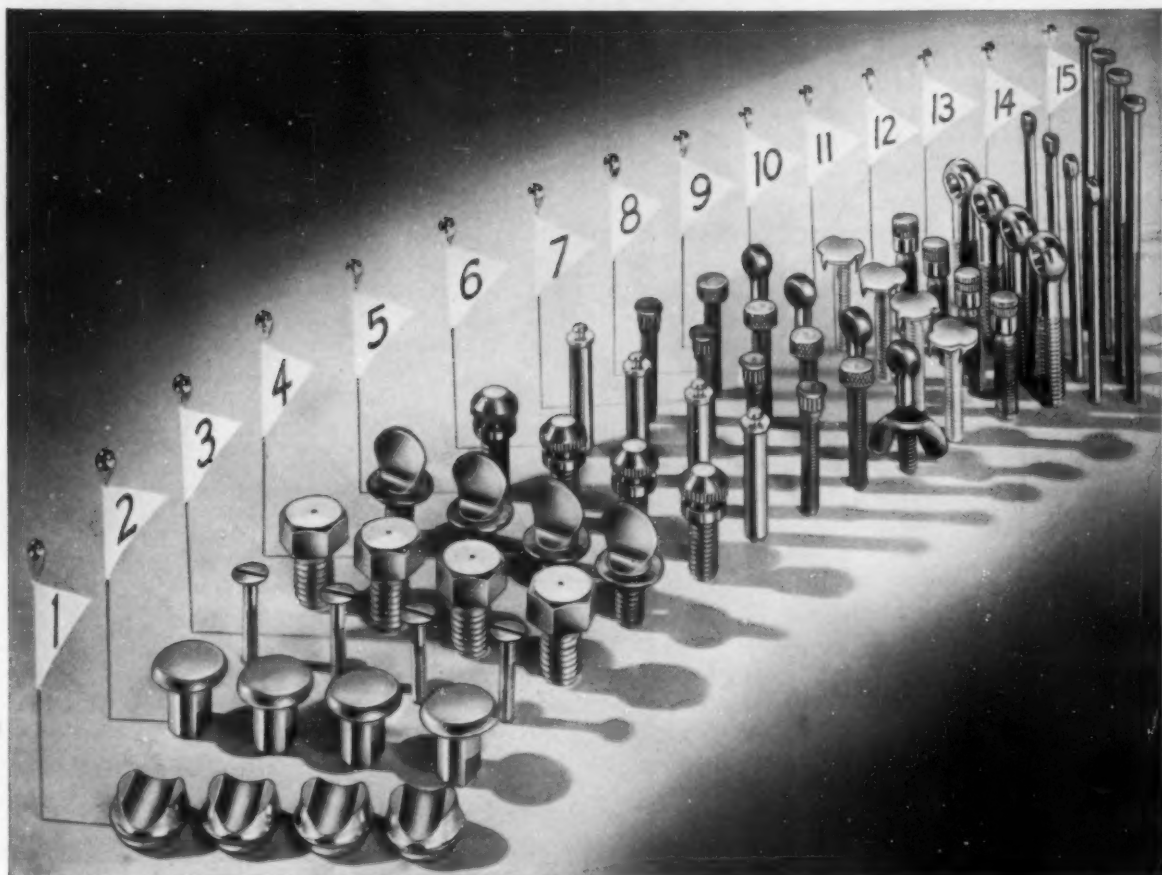
In appliances, overproduction has created the same inventory problems as in Detroit, says Judson S. Sayre, president of Borg-Warner Corp.'s Norge Div. Inventories of dryers in the hands of factories and distributors, for example, are 75% above 1955 levels despite a 40% rise in retail sales. Stocks of washers are 43% higher, and electric ranges are up 23%. Prices, says Sayre, "have already dropped to the point where they can't drop any lower."

Prices of some "independent" oils have been kited by new interest in oil reserves. People are willing to pay more for oil in the ground, it seems. According to Petroleum Week, a McGraw-Hill publication, oil reserves that traded at around \$1 a bbl. a year ago are now fetching \$1.35 to \$1.50. The bulls say buyers of these reserves will get their investment back through higher crude oil prices some day.

Municipal bonds moved a bit higher last week. But so did the number of "disappointing" underwritings. It looks as if dealers pushed the recent rise too hard. As a result, institutional investors—the market's backbone—are getting cautious again, especially after looking ahead at the volume of new offerings on the agenda.

Cash dividends through May ran 15% above the 1955 pace. But don't expect that rate of gain to continue. From now on, 1956 dividends will be stacking up against the extraordinary upswing of the last half of 1955.

Add this one to your list of offbeat mergers: Chadbourne Gotham, Inc., maker of hosiery and lingerie, expects soon to absorb the Riverton Lime & Stone Co., 88-year-old manufacturer of mortar and mineral products.



This Army of Specials Marches to Save You Money

Here are a few of the many specials produced by Harper to save industry money—to do a better job.

Many used to be milled from bar but Harper engineers and metallurgists developed methods of cold-forming them with these results:

- Important savings in cost
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If you are using parts like these of any metal other than plain steel in quantity, it will pay you to check with Harper no matter how you are producing them.

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9. Stainless Steel Focusing Screw
10. Stainless Steel Hinge Pin
11. Brass Hold-down Screw
12. Brass Terminal Block Screw
13. Monel Eye Bolt
14. Copper Conductor Pin
15. Stainless Steel Hex Head Stem Bolt



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Both are nitrogen products.

These two examples of chemistry-at-work belong to the same family—the Allied family of seven producing Divisions with more than 3,000 products. Taken together, they serve some need of just about every home, farm and factory in America.



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PERSONAL BUSINESS

BUSINESS WEEK

JUNE 23, 1956



Running a house is expensive enough to justify checking all possible tax benefits that can come to you as a homeowner. Savings as a result can pick up part of your home costs. And right now is a good time—with most of the tax year still ahead—to start keeping careful records of all expenses you may be able to deduct.

Last minute memory often loses important details that might be necessary to support your claim.

You can deduct, against your income, all your direct property taxes, many extra assessments, interest on your mortgage, property losses from fire, flood, hurricanes, that are not reimbursed by insurance.

All interest that you pay is deductible. But if you make a single payment to your bank covering amortization, interest, and taxes, get a breakdown of these items so you can report them properly. For one thing, your payments may be identical over the term of the mortgage, but the proportion of interest will vary every year.

If you've a 30-year, \$20,000 FHA mortgage your \$1,200 payment (excluding taxes) the first year, will include \$900 in interest alone. But that figure will decline every year.

On property taxes, though, be careful that they are actually taxes. For instance, water bills and sewer fees are not taxes. Though they are governmental charges, they are considered personal expenses, like electricity.

Assessments too are tricky, so make sure of their purpose. If a special assessment is levied annually on a whole qualified taxing district, for general maintenance, or paying interest on a bond issue, you can deduct it. But if it's for paving the street on which you live, it's an improvement to your property, so you can't deduct it.

Also be sure the tax you pay is officially charged to you. If the property is listed in your name, or jointly with your wife, there's no problem. But if your wife has sole title, you can take the deduction only if you file a joint return.

If the house is in your father's name, you cannot claim the deduction even though you list him as a dependent on your return. The real-estate tax is his obligation, not yours—unless you can arrange to have the taxing authority impose the tax obligation directly on you.

On property damages from casualties, make sure that you can prove both the amount of loss, and the fact that it actually was derived from a casualty.

If an explosion down the block hurls a rock through a window, you can claim a casualty loss. If the same window is shattered because the putty comes loose, you can't. Even if you're in the midst of a well-publicized flood or hurricane, you must still prove it was responsible for the damage to your property. Before and after pictures can often be valuable.

Get a statement in writing from a qualified appraiser on the difference in value of your property before and after the damage. Receipts for repair costs, or records of offers to buy the property before and after can help support the appraisal. However, you cannot claim sentimental values—or even the expense of renting temporary quarters. Losses can be based only on the market value of the property damaged.

PERSONAL BUSINESS (Continued)

BUSINESS WEEK
JUNE 23, 1956

Some of your damage will probably be repaid by insurance—but full reimbursement is infrequent. The difference is what you can deduct and just how much you'll save in taxes depends, of course, on your tax bracket.

In the very high tax brackets, it might even be cheaper to have no insurance. For instance, if you're in the 75% bracket, you'd get back \$750 on a \$1,000 loss. Insurance proceeds on the same damage would probably be no greater, and if you figure in the premiums—non-deductible—paid for coverage, net return might be less.

Incidentally, many states offer special concessions to veterans through lower assessments or lower tax rates so it might pay to check local rulings. In most cases, you've got to initiate such claims yourself.

—●—

If you're Europe-bound this year you might do well to allow some time from your itinerary for "off-beat" trips to factories and industries. They offer a wide variety of attractions, as well as diversion from the conventional museums, cathedrals, and art galleries.

For food and beverage lovers there are many free guided tours, most of which include sampling of the products. You can test the many varieties of European beers in Dublin, Amsterdam, Copenhagen, Munich, Oslo, and Stockholm. For fancier beverages visit the Champagne and Cognac regions of France and the Spanish sherry area of Jerez de la Frontera. And the sardine canneries in Norway, cheese factories in Switzerland, and Viennese bakeries can make this type of sightseeing a gourmet's delight.

If you are a foreign car fan, you'll enjoy a trip through the Rolls-Royce plant at Crewe, England and the Mercedes-Benz factory in Stuttgart, Germany. (Before leaving make arrangements with the British Travel Assn., 336 Madison Ave., New York 17, N. Y. to visit the Rolls-Royce factory, as the company likes to have advance notice.)

Here are just a few of the many other industrial visits you can make: perfume at Grasse, France; Belgian lace center at Bruges; crystal in south-eastern Sweden; ceramics at Helsinki, Finland; modern furniture and silver in Denmark; mosaics at Florence and glassworks in Venice.

The local government tourist information office abroad will give you addresses and visiting hours of industries in the area. Or check in advance with your travel agent about industrial highlights of your trip.

—●—

A new booklet can give you some helpful hints if you're planning to to buy an air conditioner this summer. Called "Things You Should Know About Air Conditioners," it's available free from The Better Business Bureau of New York City, 280 Broadway, New York 7, N. Y.

—●—

Note for gardeners: The wood ashes from your fireplace are a valuable food for many plants, particularly peonies and hardy phlox. Be sure to sift them to eliminate charred wood, and place in a tight can to insure dryness.

—●—

Manners and modes: Newest safeguard against summer bugs comes in tissue form—each tissue is impregnated with 5 insect repellents. . . . Last year, 30-million people overpaid \$2.7-billion in income tax. The government refunded the money. . . . Americans are spending 25% less on movies today than they did 10 years ago.



POWERGRIP "Timing" Belt



*"Invention
of High Order..."*

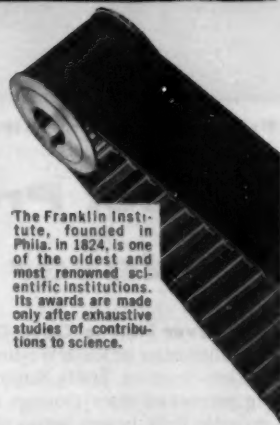
says The Franklin Institute

"For invention of high order and for particularly meritorious improvements and developments in machines and mechanical processes."

These are The Franklin Institute's words in awarding its 1955 Longstreth Medal to the inventor of U. S. PowerGrip "Timing" Belts—the outstanding contribution to power transmission of the decade.

It's easy to understand why PowerGrip received this great award. By providing near-100% efficiency in positive, non-slip, split-second timing, it has become standard equipment on a wide variety of machines and appliances. The list grows daily.

U. S. PowerGrip Timing Belts—and descriptive literature—are obtainable from factory-trained engineers at any of the 28 strategically located "U. S." District Sales Offices or by contacting us at Rockefeller Center, New York 20, N. Y.



The Franklin Institute, founded in Phila. in 1824, is one of the oldest and most renowned scientific institutions. Its awards are made only after exhaustive studies of contributions to science.



Mechanical Goods Division

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1. Doors Will Never Start to Close On Passengers as they enter or leave Westinghouse operatorless elevators. Traffic Sentinel ends startling premature door closings by projecting invisible light beams across the car entrance, which synchronize door closings precisely with traffic movement. (Eggs balanced on spoons in elevator doorway show how doors remain motionless until entrance is clear.)

2. Passengers Can Walk Calmly into waiting elevator from any point in corridor

—doors wait for them. BUT, once *in the car*, Traffic Sentinel automatically closes the doors promptly.

3. A Feature of Operatorless Selectomatic, Traffic Sentinel not only inspires complete passenger confidence, but speeds over-all elevator service in heavy traffic buildings.

Call our nearest office today for more

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*includes wages, insurance, training, uniforms (and other costs of attendant operation)

WESTINGHOUSE ELEVATORS

YOU CAN BE SURE...IF IT'S **Westinghouse**

Judgment Day for Appliances

● Manufacturers have reached the same stage as the auto industry a few years back—the weaker ones must merge or go out of business.

● It's still a buyer's market in many appliances, most notably TV sets and room air conditioners.

● The list of appliance makers, now about 150, is shrinking fast. Eventually it may be down to eight or 10.

For the multibillion-dollar appliance industry, this is the year that separates the men from the boys. In the fierce battle that's raging, the casualties are mounting every week.

For the consumer, the battle is already evident in a rash of bargains. Though over-all price indexes are holding steady or rising, it's possible for the buyer of a major appliance today to bargain himself as good a price as during the 1954 "recession." Special promotions, from tie-in giveaways to violent price slashing, are multiplying as sales decline.

• **Selling Out**—At the corporate level, the death rate is rising. Major television set makers are reported selling their products at an average \$9 over actual manufacturing cost, out of which they have to take promotional and overhead expenses. More are reported selling at actual losses, trying to ride out the storm.

Within the last few weeks, Raytheon, among the top 20 TV set makers, sold its radio and television set business to Admiral Corp. The Crosley-Bendix division of Avco Mfg. Co. is halting its sale of room air conditioners, chest freezers, water heaters, and garbage disposal units. Motor Products Corp. closed down its Deep-freeze division—a brand that gave a generic name to the type of appliance—after operating it at a loss for 2½ years. Columbia Broadcasting System is having troubles with its set-making subsidiary, CBS-Columbia. Pres. Frank Stanton lists actual close-down of the operation as one of six possible choices for the future.

• **Down to Basics**—In spite of declining consumer sales, the problem today is only slightly one of retail sales. Instead, the battle lines are drawn on production and distribution levels. When the smoke clears, many industry observers expect to see a pattern similar to that of the auto industry—a half-dozen or so giants, plus a scatter-

ing of independents, in contrast to the present array of 150-odd manufacturers of major appliances.

The attrition in total numbers has been going on for several years. It has been due partly to mergers of specializing companies that are trying to develop "full lines" (as in the Whirlpool-Seeger-RCA-Estate tie-up last year), partly to disappearance of names like Capehart and International Harvester from the appliance market.

Even among makers of refrigerators—a field that largely went through its shakedown during the 1930s—nine names have disappeared from the 30 listed in 1955 directories. In the last two booming years, the ranks of makers of home freezers were chopped from 52 to 32.

But the sharpest cutbacks have come in room air conditioners and TV sets.

• **Air Conditioners**—Two years ago, the Air Conditioning & Refrigeration Institute took a survey at the peak of the manufacturing craze, counted approximately 100 companies selling air-conditioners. At the last check, three months ago, the number was down to 50, and there has probably been some drop-off since. One source suggests that a number of them are remaining in business only long enough to work off inventory, then will fade away.

Why? Says one manufacturer: "Profits are too low, promotion too costly, dealers too few."

A few years back, room air conditioners looked like one of the appliance industry's most promising future prospects. From sales of 35,000 in 1947, the cooling units boomed to 800,000 in 1952.

Because room conditioners are relatively easy to produce—components such as compressors or cabinets are readily available, and assembly is not complicated—a lot of outfits jumped in for a fast killing as assemblers. But the public didn't buy so fast as expected.

About 1-million units were sold in 1954—but the industry finished the year with 700,000 units still in inventory. Last year, production was cut back, sales moved up to 1.3-million—but 1955 still ended with 350,000 unsold.

This year the industry expects a record sale of 1.5-million units, enough to clear the accumulated inventory. But it also expects that not more than half the current producers will survive the shake-out.

• **TV Sets**—Among TV brands, the slaughter has been even rougher. At the peak a few years back, almost 175 "makers" had their brands on TV receivers. Today about 50 are still selling sets—although some are mere assemblers, with little major investment in plant or tools, or marketers of private brands made by others.

Last year was a record year for television—7.5-million sets were sold. So far this year, though, set production and sales are off almost 15%. In the scramble for bigger shares of a smaller market, promotion is being stepped up considerably and, in many cases, profit margins squeezed out entirely.

Complicating the current situation are the rapid technological changes hitting the industry. Both color and portables are coming in fast, plus large-scale automation through use of printed circuits and the transistor family. With many makers already squeezed on production of standard sets, only a handful have both the financial and technical resources to jump into either one, much less both. And with RCA now offering a 21-inch color set at \$495—\$200 below last year's price—competitors will have to meet that price even if their production cost is higher.

Set makers don't release production or sales figures, but one informed estimate says the top 10 brands—RCA, Admiral, GE, Philco, Motorola, Zenith, Silvertone (Sears), Emerson, Magnavox, and Westinghouse, probably in that order—do 84% of the total business. The second 10 claim another 10% to 12% of the market, and the other 30 brands scramble for the remaining 4% to 6%.

• **Case of CBS**—Columbia-CBS ranks in the second 10, as does Raytheon. While some of CBS's troubles are specifically its own, in many ways they've been typical of other medium and small companies.

CBS went into set production in 1951 with the purchase of Air King,



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After all, times change—and so do security values. The stocks you bought five years ago may have been just fine for your purposes *then*—but what about now?

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And if you'd like to know what *we* think of the stocks you own, we'll be happy to tell you.

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figuring that the network's prestige would automatically push set sales. But distributors, already loaded, weren't in any hurry to take the brand. First-line distributors wanted Columbia to prove itself before they took it on.

Since then the company has had a series of problems—poor production facilities in an outmoded plant, a weak model in one key year, late deliveries of supplies. To crack the distributor line, it has had to set up its own direct distribution facilities in nine key cities. Now it has the problem of financing and setting up new facilities to break into color and portables fast and strongly enough to buck the bigger outfits.

• **General Dilemma**—Even if CBS decides to try that, it still has other key problems that face many appliance makers.

• **How to pour more and more money into promotion** to buck the giants who can spread their brand advertising over a full line.

• **Whether to combine with one or more other independents** to try to develop another "full line."

• **How, under current conditions, to develop a good dealer network.**

• **Choosy Merchants**—Dealers have been retreating for some time from the wide number of brands still on the market. They are still rapidly cutting down on the number of lines they handle. Although brand preferences vary in different areas of the country, in the majority of cases dealers won't handle more than a half-dozen brands of one type of appliance, and many limit themselves to three.

With 50 different brands, even the biggest cities haven't enough dealers to give adequate representation to all. Few can provide enough outlets for even 20 brands. Lesser-known makes have frequently been sold purely on a price basis—by the simple expedient of giving dealers bigger discounts than the large heavily promoted lines could. Today, a big East Coast distributor notes, that's not a workable tactic.

"The big boys are fighting each other so hard," he says, "that they'll give me better margins than the little guys. And they're promoting their stuff harder than the smaller companies can possibly afford to do. Your customer can get as good a price on a top brand as on an off-name, so why bother with second-line stuff?"

• **Independents Squeezed**—As in the auto industry, the growth of the full-line concept has intensified the squeeze on the independents. If a company has a full-line—TV sets, refrigerators, freezers, stoves, air conditioners, washers, even garbage disposal units, it has several advantages.

When demand for one item slacks, seasonal demand picks up for another.

Every dollar spent advertising the brand name spreads its glow over the whole line. And, most important, a dealer organization for any one appliance is frequently available for the full line.

Right now, a bare handful of companies have full lines, but they already dominate the market in many fields: General Electric (which together with its Hotpoint division has almost a double blanket); Admiral Corp.; Avco Corp. (with its Crosley-Bendix and American Kitchens divisions); Philco Corp.; Westinghouse; RCA (with its tie to Whirlpool-Seeger, the complex has four brands—RCA, Estate, Whirlpool, and Seeger—which sell as a single full line); the complex of private brands sold by Sears, Roebuck & Co., and GM's Frigidaire Div. According to trade rumors, even a couple of these giants are having troubles today.

• **Broadening the Line**—Another dozen or so companies market from two to four different appliances. Most of the rest make a single type. Some of these independents, such as Zenith in television, have managed to maintain considerable strength. But more and more of them are trying to branch out. For instance, Maytag Co., which for years rode along nicely on clothes washers and dryers, this spring added refrigerators and freezers to its line.

But widening a line today won't necessarily protect a company. Several companies have tried it and either had to retract or went broke in the process. It's a question, too, if new "full lines" will be able to find adequate dealer organizations anyway. Distributors and dealers are also feeling the squeeze, are unwilling to extend commitments.

Some strong distributors have always refused to tie themselves to a single full line. Even these, today, are switching, concentrating on the strongest of the independents.

Dealers are even less willing than distributors to hitch on to single full lines—unless exclusive area franchises could be granted as in the auto industry, and the manufacturers have militantly avoided that. Dealers have traditionally been loyal to a variety of brands. But with factories putting pressure on, they're finding that, to get one brand item, in some cases they must take the whole line. They're finding, however, they can supply customer desires as well with two or three full lines as with a couple of dozen.

The large appliance companies are reluctant to talk about the situation. But they'll concede that a shakedown is in progress. An official of one of the biggest has predicted privately to friends that there will eventually be at most eight to 10 companies. GE, Westinghouse, RCA-Whirlpool, and General Motors, with possibly four or five other new full-line combinations. **END**

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That's why Reed Roller Bit Company in Houston uses Axelson 25" hollow spindle lathes to machine their massive drill collars. The collars . . . which may be 45 feet long and weigh as much as 10,000 pounds . . . must withstand continuous punishing treatment and

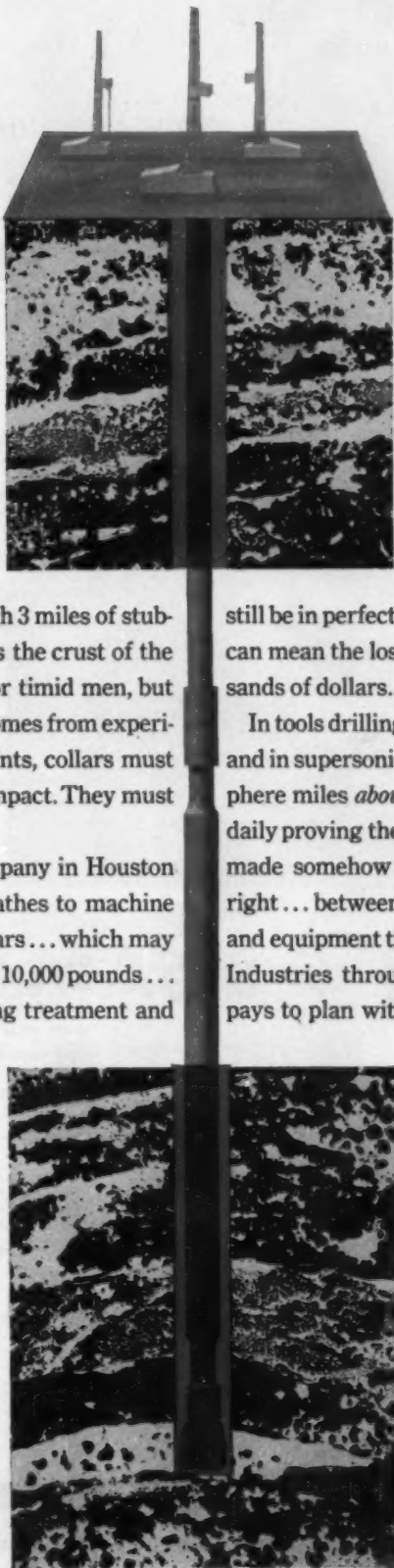
still be in perfect alignment. A misaligned drill string can mean the loss of weeks of work and tens of thousands of dollars.

In tools drilling miles *below* the surface of the earth, and in supersonic aircraft slashing through the atmosphere miles *above* it, Axelson skill and experience is daily proving the difference . . . between parts that are made somehow and parts that are made precisely right . . . between equipment that works occasionally and equipment that does the job under all conditions. Industries throughout the country have learned it pays to plan with Axelson . . . for the *tough* ones.

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*Waxed grades are available through leading converters

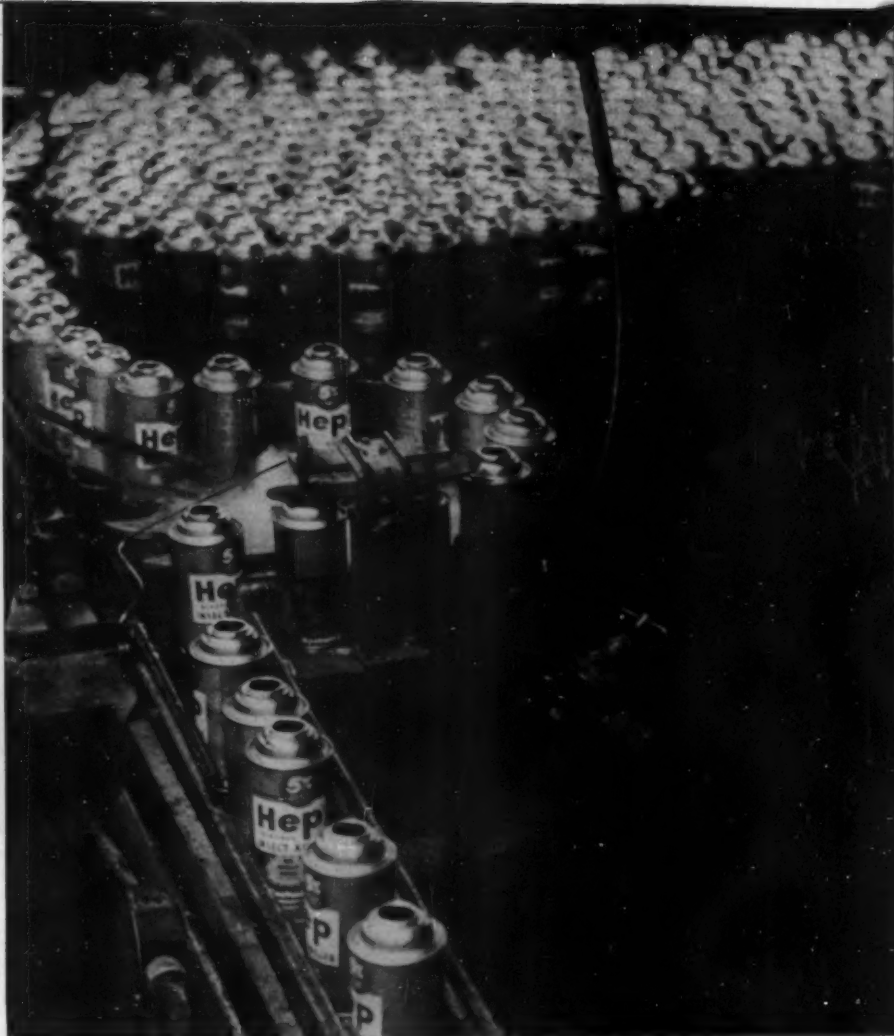
RHINELANDER PAPER

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PRODUCTION

Insecticides lead the parade of an ever growing list of aerosol products you can dispense with the push of a button. Behind the fast growth of pressure packing is the continuous experimentation of chemical companies, container makers, and "custom packers." They will determine...



How Far Can Aerosols Go?



VARIETY OF VALVES have been developed for aerosol containers. Each product may require special valve.

Aerosols are just about the hottest thing in packaging. Last year sales of pressure-packed products that are dispensed by pushing a button hit the 240-million unit mark. Ten years ago the figure was only 5-million.

But as far as industry is concerned this is only the beginning. It figures unit sales will reach 500-million by 1960. It is looking hopefully to such fields as food and pharmaceuticals, which have hardly been tapped, for new applications.

• **Problems**—Just how far pressure packing can go depends on how well the industry can adapt the gas propellants, the containers, and the nozzle valves that combine to make a product airborne when you push a button. Each new application presents new problems to the industry.

You have to be sure the gas propellant doesn't change the properties of the product, the valve doesn't clog, the mix-

ture of product and propellant doesn't corrode the container.

There are other considerations, too. Since it's easy to inhale a spray, the Food & Drug Administration people keep a close check to make certain the propellants don't add anything harmful. This is even more important if foods are to be pressure packed. And, with foods, you also have to take into account the customer's palate.

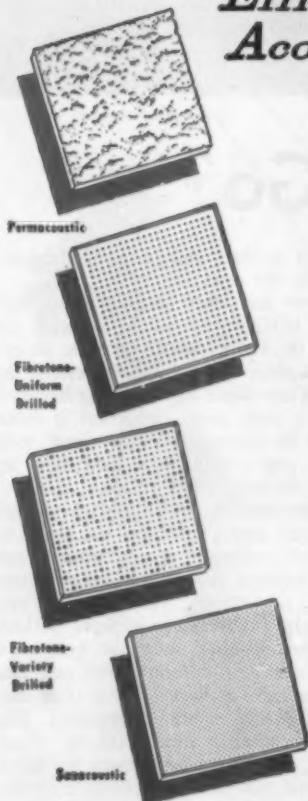
• **Consumer Acceptance**—But there's no doubt that consumers like aerosols. They are willing to pay the added price for a product that is easy to dispense. Right now about 100 consumer and industrial products are pressure packed. The two leading ones last year were insecticides (56-million units) and hair lacquer (53.7-million). And it is easy to see why they are so popular. The aerosol container eliminates the messy job of applying hair lacquer by hand. And you can kill more bugs with less

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See "MEET THE PRESS" on NBC-TV, sponsored alternate Sundays by Johns-Manville

Johns-Manville

45 years of leadership in the manufacture of acoustical materials

AEROSOLS starts on p. 177

effort with an aerosol than you can with the old pump-gun. Aerosols also provide an easier and novel way of applying paints, shoe polishes, enamels, oven cleaners.

Because consumers have taken so willingly to aerosols, industry people are working hard to improve technology so they can bring more products into their market. The companies looking for improvements and refinements in the technique of pressure packing are the chemical companies that make propellants, the container makers, and a new group—the people who put the propellants and products into the container.

For the most part, the product makers don't do the filling jobs themselves. It's a lot easier for them to turn their product over to a packer and let him do it for them. That way they don't have to bother with extra production and engineering facilities.

The first aerosols—insecticides—were fine sprays. In the trade, the term now covers any product that comes out of a container when you press a button—a spray, a foam, a liquid, a powder. The term aerosol also covers a series of surface active agents produced by American Cyanamid Co. They are used as emulsifiers and wetting agents and have nothing to do with pressure packaging.

You can pack pressure into a container with either liquefied gas or compressed gas. Most products use liquefied gases as propellants. Compressed gas, however, is used for food applications.

- **Liquid Propellants**—Liquefied gases are kept in liquid form in the container by pressure. When the mix of product and liquefied gas is released into the air by pushing the button on the cap of the container, the propellant turns back to vapor with a sort of explosion. It instantly expands many times, blasting the product ingredients into a spray of thousands of tiny particles or producing a foam or liquid.

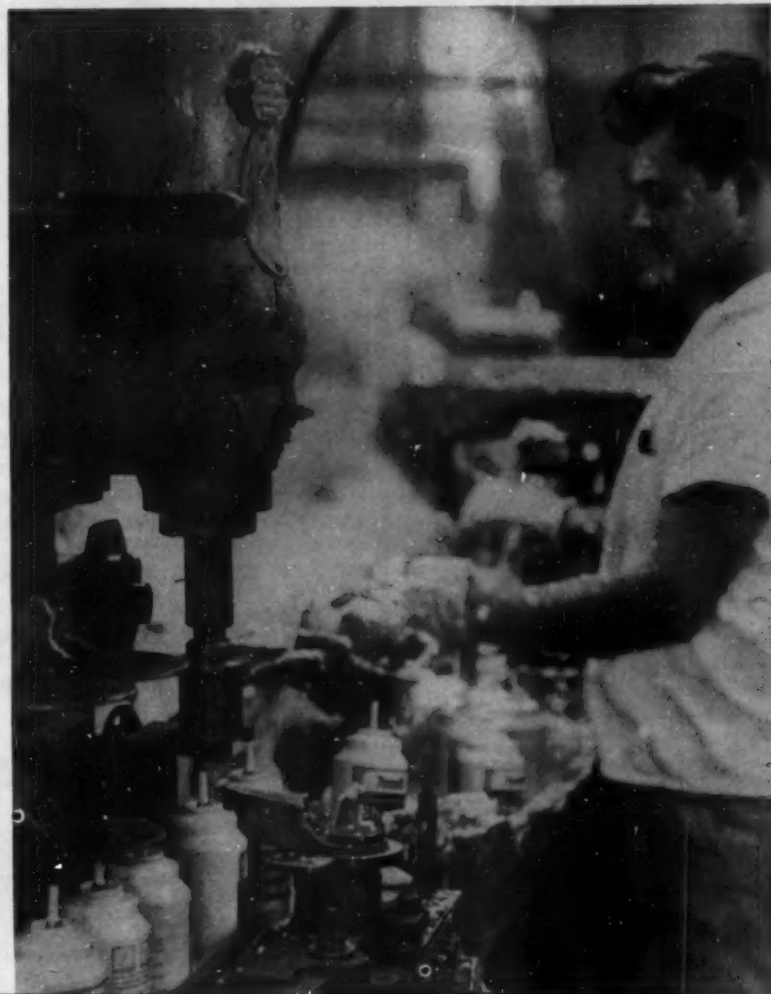
To get a fine spray, you have to use about 85% propellant in the pressure package. A smaller amount of propellant and a different type nozzle valve will give you a larger droplet, the kind you need for paints, plastic sprays, lacquers. And partial emulsions of propellant gas and product give bubbly foams such as shave lathers and shampoos. For a powder spray, solids are held in colloidal suspension with the liquefied gas.

- **Advantages**—Aerosol liquid propellants are members of a family of fluorinated hydrocarbons. They have the general characteristic of being turned into liquids easily and of staying that way as long as they are kept cold. There is a whole series of these gases. They have different vapor-pressures, solvent

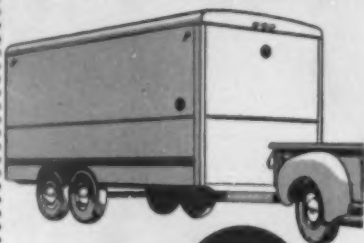


COLD FILLING is fastest way to fill pressure pack containers. Under this method, cold liquefied gas is dropped into can with product mix.

PRESSURE FILLING is used when cold liquid gas freezes or hardens the product. Instead, gas is forced into container under pressure.



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and blending properties, and mix with or affect the product ingredients in different ways. The gases are safe for use in aerosols because for the most part they are noninflammable, nonexplosive, colorless, and have low toxicity.

Liquefied gases also have the advantage of keeping a constant pressure in the can until it's empty. And they are not expensive—ranging upward from 22¢ a lb.

• **Manufacturers**—Currently, only two chemical manufacturers make liquid aerosol propellant gases—du Pont and General Chemical Div. of Allied Chemical & Dye. Du Pont produces Freon and General Chemical, Genetron. The two companies have done most of the research in the aerosol field, actively promote aerosols, and give technical and marketing information.

Now, Pennsylvania Salt Mfg. Co., a basic fluorine manufacturer, is seeking to cut itself a slice of the propellant market. The company is building a multimillion-dollar plant in Calvert City, Ky., to make similar gases under the name of Isotron. These would be available by the end of the year, but already the company is supplying information to aerosol packers.

• **Compressed Gas**—Although fluorine-based liquid propellants have been cleared for inhalation purposes by Food & Drug Administration, they have not been cleared for eating purposes. And this is holding up their entry in the food field. That's why compressed gas is being used for food applications.

Most popular pressure-packed foods so far are whipped cream, soft drink flavors, dessert toppings.

But compressed gas has definite drawbacks. Carbon dioxide and nitrous oxide—commonly known as laughing gas—mix well and are edible. But, unlike liquid-gas packs, some of these compressed gases show a pressure drop as the contents of the container decrease. Unless the formulation and product packaging is done exactly right, there won't be enough pressure to empty the container of its contents.

In addition, carbon dioxide tends to give aqueous formulations a sour taste. Nitrous oxide doesn't, but it is relatively expensive—\$1.29 a lb. Compressed iso-butane is cheaper than fluorinated gases and can be mixed in with the Freons and Genetrons to lower propellant costs. But if the mixture contains too much iso-butane, it becomes flammable.

Connecticut Chemical Research Co., Bridgeport, Conn., an aerosol packer, is experimenting with inert gases such as helium, neon argon, and even krypton for compressed gas packing. These gases will be used in small amounts in new formulations the company says it will make available soon.

• **Packaging**—Packaging is another

variable in the aerosol business. The container must be able to withstand the pressure of the gas inside. Pressure depends on a couple of factors: (1) A certain pressure is required to keep the gas liquefied at room temperature. (2) Specific pressures are needed to dispense different products—it takes less pressure to dispense cologne than to spray paint.

The first propellants used were liquefied at room temperatures at pressures of about 70 lb. per sq. in. This necessitated heavy metal cans. And these were too heavy and expensive for the mass market.

Development of new mixtures of propellants that liquefy at lower pressures opened the way for lighter metal containers. Such can companies as Continental Can, American Can, and Crown Can came up with lighter disposable cans in different sizes and shapes. The average pressure they handle is 38 psi., which is adequate for dispensing most products.

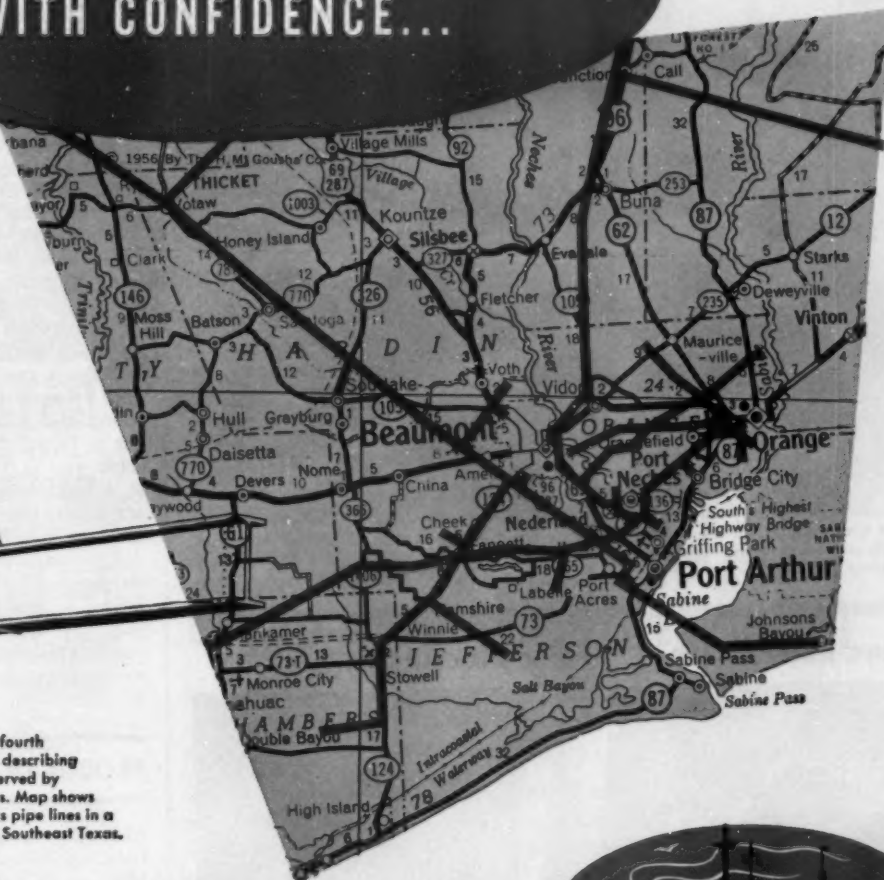
Though most aerosols still are packaged in cans, there is a move toward glass and plastics. Glass and plastic bottles are especially suitable for colognes and perfumes. Products like these are too corrosive for metal containers and don't require a high dispensing pressure. Glass bottles for aerosols have been on the market for about a year. T. C. Wheaton Co., May's Landing, N. J., developed a glass bottle coated with a vinyl plastisol skin that prevents glass fragments from flying around if the bottle shatters. It will withstand pressures of from 10 psi. to 18 psi. Melamine bottles for colognes are being made by Colt Mfg. Co. And nylon plastics containers have been developed by Precision Valve Co., Yonkers, N. Y.

• **Valves**—Not only do aerosol containers come in all sizes and shapes depending on the product application, but so do valves through which the product is dispensed. Valves control size of droplets as well as the area of dispersion. They also determine to some extent the form in which the ingredient will come out. Right now the valve makers are improving valve assemblies for use in powder sprays. And they have developed metering valves that measure out perfumes and pharmaceuticals.

• **"Custom Packers"**—Most manufacturers who want their products to appear on the market as aerosols turn the job over to "custom packers." There are about 60 or more concerns that fill aerosols for other people. They handle about 75% of the aerosols on the market.

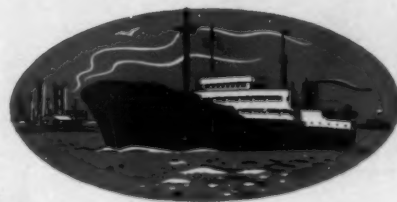
Custom packers will put the customer's product and propellant gas into a container for a service fee of 5¢ or less for each unit depending on the

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product and size of the order. The customer, of course, pays for the containers, valves, and propellants. In some cases, a packer will formulate the product ingredients, get the necessary valves, containers, and propellant mixes, and deliver the finished product to the customer.

A few of the packers, such as Plasti-Kote, Inc., Cleveland, and Connecticut Chemical Research, Bridgeport, fill for customers and put out aerosol products under their own name.

A manufacturer may turn to custom packers to get an aerosol product started, and when sales volume warrants it, do its own filling. Some even become custom packers if they find they have excess filling capacity. A single automatic filling line can load about 25,000 cans a day; a semi-automatic one can fill 10,000 a day.

• **Filling the Can**—There are two ways containers can be pressure packed—by cold filling or pressure filling. In cold-filling—the fastest way—the propellant gas is liquefied by refrigerating equipment and is dropped in the container at a temperature of about 20F. But some products—shaving cream or shampoo, for instance, would freeze or harden if gas were dropped in at these temperatures. In such cases, pressure filling is used. Under this method, the propellant gas is forced into the container through the valve orifice at room temperatures but at a pressure of 45 psi.

PRODUCTION BRIEFS

Materials handling equipment had booming floor sales at the recent exposition in Cleveland (Jun. 9 '56, p. 107). Makers of moving conveyors say that a large proportion of sales were to companies that had never used conveyor systems before.

More foam rubber will be produced by the American Latex Products Corp. Despite the increasing competition from plastics foams. The company's plant at Hawthorne, Calif., will up its production by 2.4-million lb. a year starting later this month. Most of the increased production is expected to go into furniture and other seating.

A new textile fiber for both clothing and industrial uses will be produced by American Cyanamid Co. Limited quantities of its acrylic fiber, called Creslan, will be available this year. The company plans a new plant, probably in Florida, to turn out 27-million lb. per year by mid-1958.

In both methods, containers are put through a warm water bath to spot faulty and leaky cans.

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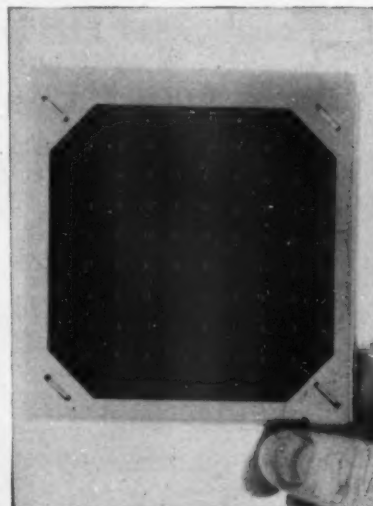


Photo Type

A new system that reduces many of the steps in phototypesetting to automatic or semi-automatic operations has been introduced by Mergenthaler Linotype Co. of Brooklyn. The Linofilm system can set 15 newspaper column lines per minute, compared with the standard 12 lines per minute with conventional equipment. And the company estimates that the speed will soon be increased even more.

Four main units are used to put the original typewritten copy on film, correct it, and lay it out in page form:

Keyboard unit: This is made up of an electric typewriter, a digital computer, and a tape punching machine. The original copy is typed on the keyboard and translated to the tape as a series of holes; spacing information is also put on the tape by the computer. The typewriter unit turns out a typed page for immediate proofreading.

Photographic unit: Meanwhile, the punched tape is fed into the photographic unit, which automatically produces the composed lines of type on photographic film or paper. As many as 18 type fonts (picture) with different type styles are available on the machine.

Corrector unit: If any errors show up, the operator runs corrected lines through the system, then puts them into the corrector with the film strip containing the errors. After making the necessary adjustments, he presses a button, and the lines with errors are cut out and removed. The corrected lines are automatically cut to size and fused to the film strip. The company says that this produces a far neater job than conventional hand cutting and splicing.

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handle sizes up to a full newspaper page, is used to lay out the strips of type in page form. The type strip is fed into the machine and projected on a blank makeup page. When all adjustments have been completed, the makeup dummy is pulled out of the way, and the full page image is exposed on a single sheet of film. Photographs or drawings can be spliced to the sheet later. This sheet is then used to make a printing plate by regular photo-etching processes on a copper or zinc plate.

The composing machine operator can also enlarge or reduce the type size on the film sheet in a range from 4 to 108 points. In this way he produces headlines or other special type sizes.

• **Fast and Flexible**—Besides the corrector unit for fixing errors on the film, the system has provisions for making fast corrections all along the line. A keyboard error can be canceled at the keyboard. Next, the tape itself can be corrected. Incorrect portions can be cut out and other pieces of punched tape pasted in.

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NEW PRODUCTS BRIEFS

Reusable fuses: Fuses manufactured by A. Lawrence Karp, of 16 Putnam Park, Greenwich, Conn., can blow out six times before they need to be replaced. Each time a fuse blows, the top glows and guides you to it. By flicking a small switch to the next position, you can turn your lights back on quickly. Three fuses, available in 15, 20, 26, and 30 amps., cost \$2.50.

Portable airport control tower that can be used as an auxiliary tower for large fields or as a regular tower for emergency fields and small airports is being made by Wickes Engineering & Construction Co., 12th Street and Ferry Avenue, Camden, N. J. The tower is light enough to be transported by helicopter or truck and needs only an electric power connection to go into operation.

Non-squeak blackboards made of plastic and glass fiber are being produced by Kessler Products Co., Inc., of Youngstown, Ohio. The green boards, called K-lite, have a soft surface that prevents squeaks. They are available in sizes up to 12-ft. by 34-ft. and costs less than conventional slate boards.

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ADVERTISERS IN THIS ISSUE

Business Week—June 23, 1956

| | | |
|---|--|--|
| THE ADVERTISING COUNCIL.....185 | GENERAL MOTORS CORP., (CHEVROLET MOTORS DIV.).....130-131 | REMINGTON RAND, DIV. OF SPERRY RAND CORP.....11 |
| AIR TRANSPORT ASSN.....126 | Agency—Campbell-Ewald Co. | Agency—Leford Adv. Agency.....11 |
| Agency—Lewis Edwin Ryan | GENERAL PRECISION EQUIPMENT CORP.....140-141 | REVERE COPPER & BRASS, INC.....161 |
| ALLEGHENY LUDLUM STEEL CORP.....73 | Agency—Geer, DuBois & Co., Inc. | Agency—St. Georges & Keyes, Inc. |
| Agency—W. R. Walker Adv. Inc. | GENERAL PRECISION LABORATORY, INC.....142 | REYNOLDS METALS CO.....90 |
| ALLIED CHEMICAL & DYE CORP.....168 | Agency—Geer, DuBois & Co., Inc. | Agency—Clinton E. Frank, Inc. |
| Agency—Albert Frank-Guenther Law, Inc. | GERLINGER CARRIER CO.....138 | RHINELANDER PAPER CO.....176 |
| ALUMINUM CO. OF AMERICA.....138 | Agency—Hal Short & Co., Inc. | Agency—Frank C. Nahser, Inc. |
| Agency—Fuller & Smith & Ross, Inc. | B. F. GOODRICH INDUSTRIAL PRODUCTS CO.....3 | RIEDEL PAPER CORP.....10 |
| AMERICAN APPRAISAL CO.....128 | Agency—The Griswold-Eshleman Co. | Agency—W. L. Toune Adv. |
| Agency—The Buchen Co. | GOODYEAR TIRE & RUBBER CO., INC.....148 | ROBBINS & MYERS, INC.....119 |
| AMERICAN CHEMICAL PAINT CO.....51 | Agency—Kudner Agency, Inc. | Agency—Erwin, Waser & Co. Ltd. |
| Agency—Gray & Rogers | GRANITE CITY STEEL CO.....127 | ROHM & HAAS CO., (PLASTICS DIV.).....80 |
| AMERICAN CREDIT INDEMNITY CO.....96 | Agency—Gardner Adv. Co. | Agency—Arndt, Preston, Chapin, Lamb & Keen, Inc. |
| Agency—Vandant, Duplale & Co., Inc. | GUARANTY TRUST CO. OF NEW YORK.....111 | ROTARY LIFT CO.....12 |
| AMERICAN GAS & ELECTRIC SERVICE CORP.....44 | Agency—Albert Frank-Guenther Law, Inc. | Agency—Greenhaw & Bush, Inc. |
| Agency—J. Walter Thompson Co. | H. M. HARPER CO.....167 | RUST-OLEUM CORP.....70 |
| AMERICAN RADIATOR & STANDARD SANITARY CORP.....91 | Agency—The Buchen Co. | Agency—O'Grady Anderson-Gray, Inc. |
| Agency—Batten, Barton, Durstine & Osborn, Inc. | H. J. HEINZ CO.....150 | SEABOARD & WESTERN AIRLINES, INC.....166 |
| AMERICAN TELEPHONE & TELEGRAPH CO.....35 | Agency—Ketchum, MacLeod & Grove, Inc. | SHAKEPROOF DIV. OF ILLINOIS TOOL WORKS.....4th Cover |
| Agency—N. W. Ayer & Son, Inc. | HEWITT-ROBBINS, INC.....8-9 | Agency—Waldie & Briggs, Inc. |
| THE ANACONDA CO.....113 | Agency—Fuller & Smith & Ross, Inc. | SIGNODE STEEL STRAPPING CO.....83 |
| Agency—Kenyon & Eckhardt, Inc. | HILTON HOTELS CORP.....21 | Agency—The Buchen Co. |
| "AUTOMATIC" SPRINKLER CORP. OF AMERICA.....15 | Agency—Needham & Grohmann, Inc. | SINCLAIR OIL CORP.....33 |
| Agency—The Robert & Joyce Co., Inc. | INDUSTRIA.....184 | Agency—Doremus & Co. |
| AVCO DEF. & IND. PRODS. CROSLLEY DIV.....22 | JEFFREY MFG. CO., (W. L. Walker Adv. Inc.).....37 | S. K. F. INDUSTRIES, INC.....146 |
| Agency—Benton & Bowles, Inc. | THE GRISWOLD-ESHELMAN CO. | Agency—O. S. Tyson & Co., Inc. |
| AXELSON MFG. CO., DIV. U. S. INDUS. TRIER, INC.....175 | JOHNS-MANVILLE CORP.....178 | FOSTER D. SNELL, INC.....186 |
| Agency—Charles E. House Adv. Inc. | Agency—J. Walter Thompson Co. | Agency—Ray Hawley |
| BAKELITE CO., DIV. OF UNION CARBIDE & CARBON CORP.....197 | JOY MFG. CO.....164 | A. E. STALEY MFG. CO.....41 |
| Agency—J. M. Mathes, Inc. | Agency—W. R. Walker Adv. Inc. | Agency—Ruthrauff & Ryan, Inc. |
| BAKER-RAULAND CO.....68 | KAISER ALUMINUM & CHEM. CORP.....58-59 | STANDARD CONVEYOR CO.....160 |
| Agency—The Fensholt Adv. Agency, Inc. | Agency—Young & Rubicam, Inc. | Agency—Klatt-Van Pelterson-Dunlap, Inc. |
| BALTIMORE & OHIO RAILROAD.....122 | KIDDER, PEABODY & CO.....109 | STANDARD PRESSED STEEL CO.....48 |
| Agency—The Richard A. Foley Adv. Agency, Inc. | Agency—Doremus & Co. | Agency—Gray & Rogers |
| BARBER-GREENE CO.....101 | KOPERS CO., INC. (WOLMAN PRESERV. ACTIVE DIV.).....166 | STATE OF RHODE ISLAND (R. I. DEV. COUNCIL).....186 |
| Agency—The Buchen Co. | Agency—Batten, Barton, Durstine & Osborn, Inc. | Agency—Bo. Bernstein & Co., Inc. |
| BLAW-KNOX CO.....67 | THE LANCASTER LENS CO.....158 | STEELECASE, INC.....157 |
| Agency—Ketchum, MacLeod & Grove, Inc. | Agency—Howard Swink Advertising Agency, Inc. | Agency—Wesley Ave. & Assoc., Inc. |
| BLUE CROSS-BLUE SHIELD COMMIS. SIONS.....124-125 | SAMUEL M. LANGSTON CO.....96 | STOLPER STEEL PRODUCTS CORP.....100 |
| Agency—J. Walter Thompson Co. | Agency—Gray & Rogers | Agency—Bert B. Glittina |
| BODINE ELECTRIC CO.....160 | LAYNE & BOWLER, INC.....100 | SYNTHANE CORP.....182 |
| Agency—The Fensholt Adv. Agency, Inc. | Agency—Rosengarten & Stelnke, Inc. | Agency—Arndt, Preston, Chapin, Lamb & Keen, Inc. |
| BREUER ELECTRIC MFG. CO.....86 | F. G. LUDWIG, INC.....180 | THE TEXAS CO.....18 |
| Agency—Grimm & Craigie | Agency—The Charles Brunelle Co. | Agency—Cunningham & Walsh, Inc. |
| BROWN CO.....163 | WACK MOTOR TRUCK CORP.....74-75 | THERMOID CO.....182 |
| Agency—J. M. Mathes, Inc. | Agency—Doyle, Kitchin & McCormick, Inc. | Agency—The Altin-Kynett Co. |
| CHARLES BRUNING CO., INC.....183 | MAGNAFLUX CORP.....80 | TOLEDO SCALE CO.....144 |
| Agency—H. W. Kaator & Sons Adv. Co., Inc. | Agency—Stoetzel & Assoc., Inc. | Agency—Beeson-Relchert, Inc. |
| THE BUDD CO.....60 | MARATHON CORP.....76 | THE TORRINGTON CO.....30 |
| Agency—Lewis & Gilman, Inc. | Agency—The Buchen Co. | Agency—Hazard Adv. Co. |
| BUFFALO FORGE CO.....16 | MARKEN MACHINE CO.....134 | TUSCON LABORATORIES.....120 |
| Agency—Molvin F. Hall Adv. Agency, Inc. | Agency—Melsner & Culver, Inc. | Agency—The Altin-Kynett Co. |
| BUSINESS WEEK.....129 | MERRILL LYNCH, PIERCE, FENNER & BEANE.....174 | TUBE TURNS.....123 |
| CECO STEEL.....164 | Agency—Albert Frank-Guenther Law, Inc. | Agency—The Griswold-Eshleman Co. |
| Agency—Charles O. Puffer Co. | METALS & CONTROLS CORP., SPENCER THERMOSTAT DIV.....100 | UNITED GAS PIPE LINE CO.....181 |
| THE CHASE MANHATTAN BANK.....151 | Agency—Butherland-Abbott | Agency—Borell & Jacobs, Inc. |
| Agency—Kenyon & Eckhardt, Inc. | MET-L-WOOD CORP.....88 | UNITED STATES RUBBER CO.....171 |
| CLARK EQUIPMENT CO., CONSTRUCTION MACHINERY.....46 | Agency—Armstrong & Agnew, Inc. | Agency—Fletcher D. Richards, Inc. |
| Agency—Marsteller, Richard, Gebhardt & Reed, Inc. | METROPOLITAN LIFE INS. CO.....121 | VIKING PUMP CO.....84 |
| CLEARING MACHINE CO., DIV. U. S. INDUSTRIES, INC.....6-7 | Agency—Young & Rubicam, Inc. | Agency—J. M. Hinkerson, Inc. |
| Agency—Grimm & Craigie, Inc. | MICRO SWITCH DIV. MINNEAPOLIS-MONEYWELL REGULATOR CO.....154 | THE WEST PENN ELECTRIC CO., INC.....143 |
| CLUES (CLASSIFIED ADVERTISING).....186 | Agency—Reich, Meyer & Finn, Inc. | Agency—Albert Frank-Guenther Law, Inc. |
| CONTINENTAL MOTORS CORP.....90 | MIDVALE-HEPPENSTALL CO.....47 | WESTINGHOUSE ELECTRIC CORP. (ELEVATOR DIV.).....172 |
| Agency—The Hopkins Agency | Agency—A. E. Aldridge Assoc. | Agency—Fuller & Smith & Ross, Inc. |
| CRANE CO.....69 | MILFORD RIVET & MACHINE CO.....80 | WESTINGHOUSE ELECTRIC CORP.....156 |
| Agency—The Buchen Co. | Agency—Graceman Adv. Inc. | Agency—McCann-Erickson, Inc. |
| CRUCIBLE STEEL CO. OF AMERICA.....135 | MOSELER SAFE CO.....118 | L. A. YOUNG SPRING & WIRE CORP.....42-43 |
| Agency—G. M. Basford Co. | Agency—Stockton-West-Burkhardt, Inc. | Agency—Zimmer, Keller & Calvert, Inc. |
| DELCO REMY DIV., GENERAL MOTORS CORP.....82-83 | NATIONAL CASH REGISTER CO.....2nd Cover | |
| Agency—Campbell-Ewald Co. | Agency—McCann-Erickson, Inc. | |
| DOUGLAS GUARDIAN WAREHOUSE CORP.....56 | NATIONAL MOTOR BEARING CO., INC.....105 | |
| Agency—Merrill Anderson Co., Inc. | Agency—L. C. Oble Co. | |
| DOW CORNING CORP.....85 | NEPTUNE METER CO.....82 | |
| Agency—Church & Gulsewitz Adv. Inc. | Agency—W. L. Toune | |
| THOMAS A. EDISON, INC., INDUSTRIAL STORAGE BATTERY DIV.....87 | NORTH AMERICAN CAR CORP.....85 | |
| Agency—J. Walter Thompson Co. | THE OSBORN MFG. CO.....14 | |
| ENIAC CO., INC.....63 | Agency—The Griswold-Eshleman Co. | |
| Agency—McCann-Erickson, Inc. | PACIFIC INTERMOUNTAIN EXPRESS.....84 | |
| ERIE RAILROAD CO.....48 | Agency—Brinacher, Wheeler & Staff | |
| Agency—The Griswold-Eshleman Co. | PAGE FENCE ASSN. (AMERICAN CHAIN & CABLE CO., INC.).....180 | |
| ESTERBROOK PEN CO.....64 | Agency—Reich, Meyer & Finn, Inc. | |
| Agency—The Altin-Kynett Co. | PARADE PUBLICATION, INC.....4 | |
| THE FAFNIR BEARING CO.....3rd Cover | Agency—Calkins & Holden, Inc. | |
| Agency—Horton-Noyes Co. | PEERLESS PHOTO PRODUCTS, INC.....81 | |
| THE H. K. FERGUSON CO.....13 | Agency—John Mather Lupton Co., Inc. | |
| Agency—The Berles-Kerr Co. | PERMACEL TAPE CORP.....110 | |
| FIRST NATIONAL CITY BANK OF NEW YORK.....87 | Agency—The Altin-Kynett Co. | |
| Agency—Batten, Barton, Durstine & Osborn, Inc. | PITTSBURGH STEEL CO.....83-85 | |
| WALLY FRANK, LTD.....186 | Agency—Borke & May, Inc. | |
| Agency—Dundes & Frank, Inc. | PRAIRIE SCHOONER, INC.....180 | |
| FRICK CO.....138 | Agency—Juhl Adv. Agency | |
| Agency—Wayburn Adv. Agency | RADIO CORP. OF AMERICA.....182 | |
| GENERAL FIREPROOFING CO.....132 | Agency—Al Paul Lefton Co., Inc. | |
| Agency—The Griswold-Eshleman Co. | RAILWAY EXPRESS AGENCY.....17 | |
| | Agency—Benton & Bowles, Inc. | |
| | RAYBESTOS-MANHATTAN, INC. (MAN. HATTAN RUBBER DIV.).....198 | |
| | Agency—The Roland G. E. Ullman Org. Inc. | |

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| | |
|---|--|
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No Time to Waste Ammunition

The Administration's attempts to reshape our foreign economic program have so far been thwarted by the failure of Congress to take positive action. Both the Senate and the House have proceeded at a snail's pace, and often, in opposite directions.

This is apparent in the tussle over foreign aid. The House cut the President's request for \$4.9-billion in foreign aid appropriations by \$1.1-billion. The Senate Foreign Relations Committee has voted to restore about \$700-million. This action is by no means final, for the measure must now be debated in the Senate and then must go before a joint conference of the House and Senate.

Other foreign aid measures have faced similar delays. The Administration's request to have the U. S. join the Organization for Trade Cooperation was reported favorably by the House Ways & Means Committee more than two months ago. But the House Rules Committee has not allowed it to be presented for final action.

The bill for customs simplification, a measure strongly backed by the Administration, was passed by the House in 1955. But it is still pending in the Senate, where it has been pigeon-holed by the Finance Committee. Despite the fact that the measure was the subject of extensive testimony last year, new hearings have been set, with as many opponents as supporters anxious to appear.

Many private citizens who are in favor of the Administration's new program have become disheartened by the slow passage of events. Instead of blaming Congress, however, some of the most fervent supporters of liberalized trade have turned on the Administration.

For example, the president of the National Council of American Importers has publicly announced that he has given up hope of getting action on the Administration's program. He called the failure to approve OTC membership, "a great tragedy," then proceeded to find fault with the Administration for failing to press Congress hard enough.

How to Get Action

Considering the long and painful history of these measures, disappointment and pessimism are understandable. Yet it is hard to see how the Administration can be charged with the blame. Pres. Eisenhower has made strong personal appeals to Congress, and the Administration as a whole has followed his firm and urgent lead.

Congress can ignore, or even defy, the wishes of the President. But Congress, which represents the entire nation, cannot ignore the wishes of the people. It is incumbent on those who want the new program enacted to spur the legislative branch to

action. Finding fault with the Administration over the failure of Congress to act on foreign trade is not only hitting the wrong target, it also represents a lamentable waste of ammunition.

The Resilient U.S. Economy

Time and again, the postwar American economy has confounded its critics—domestic and foreign—by showing that, unlike the prewar economy, it doesn't have a glass jaw. When it's hit hard—even by a jolt like this year's drop in autos, farm machinery and housing—it doesn't fall to the canvas (though it may sag a bit at the knees). And its recoveries have been strong.

Practitioners of economics, the dismal science, have been hard pressed to account for this phenomenon. Many who assimilated what may be called the Keynesian mood of stagnationist anxiety, though not necessarily the Keynesian apparatus of economic analysis, have gone on waiting for doomsday.

But now Daniel Hamberg—who, incidentally, builds on the economic theory that came out of the Keynesian Revolution—has come up with a pretty convincing explanation of our new economy's ability to take shocks and go on growing (page 133). His explanation is essentially that, as a result of technological progress and a growing labor force, our growth rate has been outrunning our ability to save and invest. So capacity has generally been used to the hilt, employment has been high, and the underlying tone of the economy has been firm or moderately inflationary.

But this doesn't guarantee that we can stay out of trouble forever. The big problem we face—and the one that could turn the economy toward recession—comes when savings and investment do catch up with our ability to grow. That is the essential riddle for government policy this year: What do you do when you hit the growth ceiling?

This year the Federal Reserve concluded that what you do is fight inflation. Hamberg suggests the opposite—that you worry about a failure of demand and a turn toward deflation.

His theoretical case doesn't settle the argument. What we need now is serious exploration of his argument by other members of the economics profession, by Federal Reserve and Treasury officials, by the members of the Joint Congressional Committee on the Economic Report. Though we're fairly confident now that we know how to fight a depression, nobody is at all sure that we know how to reach boom heights—and go on, keeping up steady growth.

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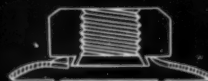
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